NEW
IMPROVEMENTS
OF
Planting and *Gardening*,
BOTH
Practical *and* Philosophical.

In Three Parts, *viz.*

I. The Clergy-Man's Recreation.
II. The Gentleman's Recreation.
III. The Lady's Recreation.

By JOHN LAWRENCE, A. M. Rector of *Yelvertoft* in *Northamptonshire*, and sometime Fellow of *Clare-Hall* in *Cambridge*.

WITH AN
APPENDIX
EXPLAINING
The MOTION *of the* SAP *and* GENERATION *of* PLANTS:

With other Discoveries never before made Publick, for the Improvement of Forest-Trees; with an Invention whereby more Designs of Garden Platts may be made in an Hour, than can be found in all the Books now extant. Likewise several rare Secrets for the Improvement of Fruit-Trees, Kitchen-Gardens, and Green-house Plants.

Adorn'd with Copper Plates.

By RICHARD BRADLEY, Fellow of the Royal Society.

London Printed; And Reprinted in *Dublin*, for G. Grierson, at the *Two Bibles* in *Essex-street*. MDCCXVII.

LO 3762

THE

Clergy-Man's Recreation:

Shewing the

Pleaſure *and* Profit

Of the ART of

GARDENING.

Quare agite ô proprios generatim diſcite Cultus,
Agricolæ, fructuſque feros mollite colendo.

Virg. Georg.

By *JOHN LAWRENCE*, A. M.
Rector of *Yelvertoft* in *Northamptonſhire*, and ſometime Fellow of *Clare-Hall* in *Cambridge*.

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Mr. LINTOTT,

SO far as I am a Judge, there is more of the Art of *Gardening* in this little Tract, than in all I have yet seen on this Subject.

March 15.
1717.

L. Lloyd.

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THE PREFACE.

GARDENING *being of late Years become the general Delight and Entertainment of the Nobility and Gentry, as well as Clergy of this Nation: It is not with great Difficulty that I have comply'd with the Solicitations and Desires of many of my Friends, to communicate to the Publick some of that Skill which I have acquir'd therein, by the Observations and Experience of above Twenty Years.*

I am not so vain as to think I am able to teach the great Masters in this Science any new Discoveries concerning the Management of the Orangerie, or the Meloniere; or to invent any new and costly Ways for laying out Platforms, and enlarging Gardens: This perhaps has been already done to a Fault; and 'tis this Excess which has ruin'd brave Estates, and consequently has made others afraid of engaging in it. For I could never be of the Opinion of a certain Noble Person, who spake very contemptibly of his own Garden, to one that admir'd it; Alas! *(says he)* This is a small inconsiderable Place, of only Thirty Acres; whereas my Lord —— has above Fourscore.

If once we come to vye with one another, either for exquisite Niceness and Finery, or multitudes of

Acres, *one may eaſily gueſs what the conſequence of that will be. Now therefore the Deſign of this is neither to teach the Management of Exotick Plants for Green-Houſes, nor to recommend any thing over-curious or coſtly; but only to lay down ſuch Rules as may make Returns both of Profit and Pleaſure: And to recommend the Art of Managing a Garden to thoſe of my own Order, the Clergy; not to make them envy'd by Māgnificience, but to make them happy, by loving an innocent Diverſion, ſuitable to a grave and contemplative Genius. I would not be underſtood as if I thought a Divine might not innocently uſe many other Diverſions; only this I ſuppoſe moſt People will allow, that as there are ſome Sports and Exerciſes not ſuitable to a Divine, ſo* Gardening *is a very agreeable and commendable Recreation,* viz. *Pruning, Planting, Sowing, Grafting and Inoculating, and ſometimes digging* ad Ruborem, *tho' not* ad Sudorem. *For indeed, of all others, a Clergy-man, whoſe chief and moſt conſtant Buſineſs is ſitting at his Study, moſt wants Relaxation, and ſome moderate Exerciſe, to preſerve Health. For my own part, I muſt own, that 'tis the beſt and almoſt only Phyſick I take: and if thro' the rigour or wetneſs of the Seaſon, I am denied the benefit of my Garden for ſome Days, and labour under Indiſpoſitions; God's Bleſſing, with a warm and Sun-ſhiny Day that invites me out, ſoon ſets me to rights again.*

This perhaps is not every ones Conſtitution; but thus far almoſt all are agreed, that the Diverſions and Amuſements of a Garden, with moderate Exerciſe, are not only moſt delightful to thoſe that love them, but moſt wholſom to thoſe that uſe them. And becauſe it muſt be ſuppoſed to be ignorance of the Times and Seaſons, and the not knowing what

to do in a Garden, when there, as to Planting, Pruning, Grafting, &c. *which make so many regardless both of the Pleasure and Profit of this Art; And because I think also that many others have been horribly imposed on, either by the Unskilfulness of the Country Gardeners, or, which is worse, their Knavery, whereby they plant Trees of wrong Sorts on wrong Stocks, or not in a right Method and Season, so as to be almost wholly discouraged by not receiving any Fruit of their Labour and Charge: For this reason I venture to communicate some Observations that I have made, which I conceive may be of use to my Brethren, or such other Gentlemen as desire to have a pleasant and profitable Garden, and yet may want Skill enough themselves to manage it with Success.*

I confess, I cannot but with grief look into some Gardens where I find little more than Leaves or half-dead Trees, whilst yet the Owner, it may be, loves a Garden as well as my self, and has impatiently expected the Fruits of it for many Years; and yet has only at last bought his Experience with the loss of all that Time. This I speak as to the choicer sort of Fruit against Walls, where the Disappointment has proceeded from wrong Positions: As for Instance, the Buree-Pear against a North or North-East Wall; or from wrong Stocks, as the Apricot on the ordinary Plum-Suckers; or the being cheated in the sort of Fruit you send for, which is the most common Disappointment of all. And truly this has made me look on with great Compassion, to see Gentlemen thus defeated of their Hopes, almost discouraged against any farther Attempts; because they have already waited so long, even the best (as it is the earliest and most vigorous)

vigorous) part of their Lives without Succeſs. For a wrong Sort of Fruit, or Fruit upon a wrong Stock, will, it may be, draw you on with Expectation for 4, 5, *or* 6 *Years to taſte its Fruit, and then poſſibly you find with Grief, inſtead of an old* Newington *Peach, a dry inſipid Nectorine, or inſtead of a rich* French *Pear, a gritty Choak-Pear or Warden; or elſe your Tree being on a wrong Stock, will make a Shift to live* 4 *or* 5 *Years, and then die at laſt. So that in both theſe Caſes, your beſt and only Remedy is to take them up and plant others; and, it may be, not without the ſame Fear of being deceiv'd again. And yet if they prove what you expect, here muſt be* 3 *or* 4 *Years more before you receive Fruit: And I need not tell any one what a Diſappointment it is to loſe* 8 *or* 10 *Years of the beſt part of our Lives in tired and fruitleſs Expectations. If therefore I ſhall be able in any Meaſure to remove theſe Fears from thoſe who would otherwiſe love theſe innocent Diverſions, and give them better Hopes, I deſire what follows may not be thought impertinent or unſeaſonable, though coming from a Clergy-man.*

I have often ſmil'd at the Rebukes I have met with from ſome Gardeners, who hate to be inform'd by a Scholar, or to be turn'd out of their beaten Road by any Body; "*What, ſay they, does this* "*Man come and pretend to teach us, to make our* "*Maſters think we do not underſtand our Buſineſs?* "*How ſhould he know what Stocks are beſt for Trees,* "*or how to prune them? It is fitter for him to be* "*at his Studies, a making Sermons. So that I aſſure you if the Gentleman has not a great deal of Courage, he muſt be content to go on in the old Way, or very much diſoblige his Gardener.*

The PREFACE.

I am not in the leaſt aſhamed to ſay and own, That moſt of the Time I can ſpare from the neceſſary Care and Buſineſs of a large Pariſh, and from my other Studies, is ſpent in my Garden, and making Obſervations towards the farther Improvement thereof. For I thank God, this ſort of Diverſion has tended very much to the Eaſe and Quiet of my own Mind; and the Retirement I find therein, by Walking and Meditation, has help'd to ſet forward many uſeful Thoughts upon more divine Subjects, as I may perhaps hereafter have Occaſion to inform the World. In the mean Time I cannot but incourage and invite my reverend Brethren to the Love of a Garden; having my ſelf all along reap'd ſo much Fruit from it, both in a figurative and literal Senſe.

By the good Providence of God, and the extraordinary uncommon Bounty of a generous Patron, which I always remember with Gratitude, I have been plac'd where I now am near fourteen Years: And it may not be amiſs to relate what Difficulties I have all along laboured under, that others may ſee what is to be done with Care, even to the worſt of Soils.

Adjoining to my Houſe, I found what they uſed to call a Garden, of about 32 Yards ſquare, mounded round with low Mud-Walls, quite over-run with Couch or Twitch-graſs, Nettles and Gooſeberry-buſhes; and, which was a great deal worſe, upon a wet white Clay, lying within half a Foot of the Surface. The earneſt Deſire I always had to have a Garden, made me look on with Grief; but yet I inſtantly reſolved to be doing ſomething, that no Time might be loſt towards getting Wall-Fruit, if poſſible.

I was diſſuaded by moſt of my Neighbours, as thinking it a very vain Attempt, and that I ſhould

loſe

lose all my Labour *and* Charge, *as others have done. Not yet discouraged, I resolved to pull down the Mud-wall that faced the South-East, and to built a Brick one in the stead about Nine Foot high, which I did, by the kind help of my Neighbours, the same Summer I came, and sent for my Trees from* London *in* October, *and planted the Walls with Apricots, best Pears, Vines,* Figs, *Plums, Cherries, a Peach and Nectorine. My next Care was to provide a Nursery of all sorts of Stocks for future Planting, as I made room for them.*

What Methods I used to give my self any Hopes of Fruit in a Garden; which, with respect to the Soil, was made almost invitâ Minervâ, *will appear by the following Directions; but I only say here, to encourage my Friends, that in three Years time, if not sooner, I began to taste some of the Fruits of my Labours; the fourth Year I was rewarded with Fruit from almost all of them; and ever since I have had Plenty, even greater than I could reasonably expect, from all the several sorts except the* Old Newington, *which I most of all suspected by reason of the Soil; tho' even that flourished and bore, but the Fruit was watry and insipid. I have succeeded better in other Sorts since.*

As to the Nursery that I formed chiefly from all sorts of Seeds and Stones, I have succeeded so well, that by Grafting and Inoculating thereon, I have for several Years had enough, not only for my own Use in all parts of my Orchard and Kitchen-Garden, but also to oblige my Friends, which is no small part of my Pleasure.

I give these short Hints to shew how adviseable it is when Persons first come to a Living, *or an Estate, to begin their Plantations without Doors first, and not, as is usual, fall to Repairs and Alterations within,*

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THE
Clergy-Man's Recreation;
SHEWING THE
Pleaſure *and* Profit
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Concerning Preparing the GROUND *for* PLANTING *and* SOWING.

THE Method that I ſhall obſerve in treating on this Subject, ſhall be in the ſame that I would adviſe all Perſons to proceed in, who intend to form a Garden of their own, where it may be there are little or no Preparations towards it. And I do not intend to direct you to any ſuch coſtly Experiments and Rules as Monſieur *Quintinye* propoſes to his Royal Maſter: But ſhall all along have Regard not only to the cheapeſt, but alſo the moſt Expeditious Methods to procure you the Fruits of your Coſt and Labour. Therefore for the ſake of

those who must either form a Garden out of their Home-Sted, or (which is most common) do find a mounded Place for a Garden, full of little else but noxious and spreading Weeds, I shall lay down the following Rules distinctly to each Case. To the first, who are to form a Garden anew, and intend to build Walls, I say that Thirty or Forty Yards square is abundantly enough for that you intend for your best Garden, where you would have your choicest Fruits and Flowers grow; for more would make you uneasie to have it kept and managed as it ought: If there be no great Inconvenience in it, it will be better to have your Walls face not the four Cardinal Points, but rather between them, *viz.* South-East, South-West, North-East, and North-West; for then the two former will be good enough for the best Fruit; and the two latter good enough for Plums, Cherries, and Baking Pears. Only observe this, that instead of building your Wall that faces the North-East, it may be adviseable (to save Charges) to plant a Crab-Hedge of three Rows, which will be a good Mound, and will quickly grow up to be a better Fence than a Wall against the West and South-West Winds, which make the greatest Destruction in a Garden; and according to the Observations I have made, do blow two Parts in three of the whole Year. It may be adviseable also to plant here and there an Elm, to be growing up to a greater height. For whatever you do, you must be sure to guard against the Westerly Winds, which blast your Fruit more than those from the East, as they are much more frequent. After your Platform is thus laid out, and you have disposed your Walks of Gravel and Grass, as your own Fancy leads you (for there is no Mode or Fashion in those Things) you must then hasten to

build

build your Walls, that your Fruit-Trees may be ready to plant in *October*, and in the mean Time be digging your Ground to mellow all Summer and Winter.

There is ſome different Method to be uſed by thoſe that find a Garden-place already mounded, full of noxious Weeds: For their firſt Care muſt be to deſtroy *them*; ſo that what is ſown or planted afterwards may not periſh by *their* ſpreading luxuriant Growth. Several Methods have been propoſed towards deſtroying Weeds, ſuch as ſowing the Ground thick with Turnips, Hemp, *&c.* But I have found no Way ſo certain and effectual, as laying the whole Ground fallow all the Summer, by digging it over two or three ſeveral Times, always obſerving to do it in the greateſt Heats and Drought. This not only certainly kills all the Weeds, but it likewiſe mellows and enriches the Ground exceedingly, as all Farmers know very well. Moſt are naturally deſirous and greedy to make ſome Improvement of their Ground; but if they ſow any Thing with Expectation of Fruit, while 'tis full of Weeds, 'tis but loſs of Time, and they will repent it. I do not ſpeak this with Reſpect to your Plantation of Fruit-Trees, either Dwarfs or Wall-Trees. For I would have no Time loſt in the planting of them, that you may the ſooner taſte their Fruit, neither will the Method propos'd, in the leaſt hinder this Deſign; for you may with little Difficulty clear thoſe particular Places of all noxious Weeds (which yet muſt be done with Care) where you intend to plant your Trees, and yet the reſt of the Ground may lie fallow; which leads me to ſhew you under this Head, what is to be done before you plant your Trees: For except your Ground be extraordinary good indeed, you muſt dig a Hole of four

Foot

Foot square, and two Foot deep, which must be filled up again with Dung and good Mould, for each Tree you intend to plant. If your Ground be Marle or stiff Clay (which is my particular Misfortune) you must get all the Rubish you can together, of Lime, Stone, small Pieces of Brick and Tyle, Coal-Ashes, and Drift-Sand to mix with your best Mould and Dung, so that the Clay may not convert it to its own Nature; fill up the Hole with this half a Foot higher than the rest of the Level, remembring to preserve some of the finest Mould near the Top (free from Dung) to plant your Tree in: But if your Soil be a not over-rich or hungry Gravel or Sand, you must fill up the Holes with the best rotten Horse and Cow Muck you can get, together with the richest Mould. Thus when your Holes are cleared from Weeds, and prepared and fill'd up according to the forgoing Direction, put an upright Stick in the middle of the Hole, for a Mark where to plant the Tree in the Order you intend.

But because it is a thing of such great Consequence to have your Trees well planted, in order to secure their future Growth and Prosperity, I cannot but add one farther Direction about this Matter, which long Experience has confirm'd to me, to be a good one, *viz.* this; That nothing is more agreeable or suitable to the Roots of a young Tree, than untry'd Mould or Earth, such I mean as has not within the Compass of an Age been turn'd up either with Plough or Spade, which I suppose may easily be found in most Lordships: But I would recommend *that* particularly which is wont to be called a Waste or Common, whereon Cattle have used to stand either for Shelter or Convenience. The Nature and Richness of this having never been

exhausted

pretty many convenient Drains, which may be one at a very easy Charge, by only digging Trenches two or three Foot deep, leading to the lower ground, and then pouring in Pebbles or any rough rubbish Stones: Upon which lay some small green Boughs, and throw the Earth again upon them. This I have experienced to last many Years, and will effectually drain your Garden.

CHAP. II.

Of the Method *of Planting* Fruit-Trees *in your Gardens.*

WHEN you have disposed your Borders according to the foregoing Directions, great Care must be taken in the right ordering and disposing also your young Trees; for if they be not planted according to Art, *viz.* not rightly order'd in their Roots, nor set at their right Height or due Distances, your Expectations may be in great measure defeated. If therefore your Trees come from the Nurseries about *London*, (as what seems most adviseable) the first thing you have to do is to prune their Roots, by taking off all the small Fibres intirely, and shortning the bigger Roots to about six Inches from the Stem; and if they have received any Gall or Wound in their Carriage, that part of the Root must also be cut off: Two or three Spurs are sufficient; but if there be more good ones, they may remain pruned, as aforesaid. The next thing to be done, by reason of their having been out of the Ground several Days, and so are become very dry, is to steep them in some Vessel of Milk and Water, or Dish-water, for 24 Hours, which will supply the

Roots,

exhaufted by the luxuriant Growth of Plants or Shrubs, or larger Weeds, there is a ſtrange and uncommon Fertility in it; more, I think, than is ordinarily to be met with in any other rich Compoſitions of made Earths; at leaſt 'tis ſuch as I have found more ſuitable for the growth of young Trees; and therefore the more of this you put into the Places where you plant, the better; always obſerving to take off a thin upper Turf, and then dig only one Spade deep for this purpoſe; and if your Garden Soil be Marl or Clay, remember (as I obſerv'd before) to mix Coal-aſhes or Drift-ſand with it, otherwiſe all will quickly be converted to the native circumambient Soil, and thereby your Tree in ten or twelve Years time will languiſh, canker, and it may be, die.

I need not tell you here, that 'tis perfect murdering a young Tree to ſet it in the ſame Place and Soil where an old one had grown; and therefore more than ordinary care is to be taken to repleniſh the Place with this new untry'd Mould, as far as the old Roots went, or at leaſt as far as new ones need to go.

It may not be amiſs alſo to add under this Head, that if your good Soil be very ſhallow, or that your Garden lie over-wet and moiſt, it is a very good and ſafe way to lay Tiles or Bricks all over the bottom of your Trench, to hinder the Roots from ſtriking downwards, and ſo occaſion the ſpreading into the good Soil. For 'tis a Rule in Gardening, that the more horizontally either Roots or Branches of Fruit-Trees run, the better they anſwer the Purpoſes of bearing Fruit; as I ſhall have occaſion to obſerve further under the Head of *Pruning*. I ſhall conclude this Head with adviſing thoſe who are ſo unhappy as to lie upon a ſpewy, wet, or clay Soil, to make

Roots, and make them apter to ſtrike new Fibres into the Earth, when planted. The Head alſo muſt be pruned; but that may be done any time before it begins to ſhoot in the Spring. A ſingle Branch is ſufficient for a Head, and it is not well to leave above two, pruned to about ſix Inches above the Place of Grafting or Inoculation. If it be a Dwarf, place it as upright as you can; if for the Wall, ſet the Foot as far from the Foundation as conveniently may be, leaning with its Top to the Wall.

The forgoing Direction about pruning the Roots and Head ought to be particularly regarded, becauſe it is the common Fault of young and unskilful Planters to be covetous of leaving as much Head as may be; thinking *that* to be the earlieſt and moſt ready Way to cover their Walls and to have Fruit; whereas if it does not endanger the Life of the Tree, it is a certain Means to retard its Growth, and keep the Walls bare and uncover'd towards the Bottom. Indeed, Reaſon as well as Experience tells us, that there ſhould be a due Proportion between the Roots and the Head; for Nature having receiv'd a great Check at the Removal of a Tree, its Roots being wounded, ſhortned, and expoſed to the Air, if the Tree ſhould not be eas'd of that tall Head it got in its Proſperity, (now larger than the injur'd Roots can ſupply with Sap) the neceſſary Conſequence would be, that if it ſhould juſt live, yet it muſt continue in a weak, languiſhing, and unthriving Condition. However it may eaſily be perceived, by what has been ſaid, that there is a diſcretional Power to be us'd by a Planter, with Reſpect to thoſe Trees which are only removed from one Part of the Garden to another, taken up with great Care, and moſt of the Mould about the Roots. Such I have my ſelf frequently removed

without either pruning Root or Branch, and have ſucceeded very well: But then this is hardly to be practiſed on any but ſmall young Trees: And I ſometimes do this deſignedly, with only this View, to check the luxuriant Growth of a too vigorous Tree, running altogether into Wood, taking it up carefully, and immediately ſetting it down again in the very ſame Place, for a Reaſon you'll hear more of, when we come to pruning.

The different Nature of Soils is to be regarded, as to the Height you are to plant a Tree above the Level of your Walks. In a warm, dry Soil, a little Elevation does; but in a wet Clay, you cannot ordinarily plant too high, ſo that you do but in any Sort cover the Roots with the beſt fine Mould, and preſerve it moiſt for one Year, againſt the ſcorching Heats of the Sun, by which Means it will be preſerved from Canker, and thrive much the faſter, even tho' there ſhould appear ſome Part of the bigger Roots above the Surface; and ſtill remember to allow for the ſubſiding of the new Earth, which will deceive you three or four Inches. Be careful to follow theſe Directions, obſerving to leave no Vacuities at the Roots, but preſs the fine Mould gently and cloſely with your Hand, and you need not fear hardly any Sort of our Fruit-Trees growing and flouriſhing.

But it may not be amiſs to ſay ſomething concerning a ſafe Method to keep new-planted Trees moiſt and cool for the firſt Year, and, if Need be, for the ſecond. Mr. *London* and *Wiſe* recommended Fern and Straw laid five or ſix Inches thick, and two or three Foot every Way from the Stem of the Tree, having firſt laid half-rotten Dung all round the Tree. I very much approve of this, to keep them warm in Winter from the violent Froſts: But the

Straw

Straw and Dung lying too long together, engender Worms, Ants, and other ſorts of Vermin, very injurius to Roots of Trees: Therefore the beſt Method I have found to keep the Roots cool and moiſt in Summer, is to lay Sand in a convenient Circle round the Stem of the Tree, and then pitch or pave it with ſmall Pebbles, Flints, or any little ſmooth Stones, which will not only look beautiful to the Eye, but alſo effectually anſwer the End of keeping the Tree cool; and beſides, when you water it in the Summer, will help to let in the Water, and keep the Earth from being waſh'd away from the Roots.

It is alſo to be obſerved, that this Method of managing Trees in the planting them, will be of the ſame Uſe with Reſpect to all Ever-greens, which are generally not over forward to thrive after a Removal. I ſay, you muſt *plant* them after the foregoing Rules, but not *prune* them, eſpecially Hollies and Yews, which have matted Roots, and will hold the Earth to them, ſufficient to convey them to ſmall Diſtances; and if a greater Diſtance is required, they ought to be ſent in Pots or Baskets, that neither Root nor Head may be touched with a Knife.

As to the Diſtance in which Fruit-Trees are to be planted againſt a Wall, *that* is in a great Meaſure to be regulated by the Height of the Wall. Four Yards Diſtance will do, if the Wall be ten or twelve Foot high, but if it be but ſeven or eight Foot high, five Yards Diſtance is the leaſt that can be allowed: Only you are to obſerve, that a Pear, a Plum, an Apricot and a Cherry, require ſomething a greater Diſtance than a Peach or Nectorine; and therefore the lower Walls too are moſt ſuitable to the latter, if they have but a good Aſpect. I cannot but re-

commend that frugal Method, practis'd by moſt Gard'ners near *London*, of planting tall Fruit-Trees, Cherries, or Plums in the intermediate Spaces of the Wall, ſo that both Top and Bottom will be well-nigh furniſhed in two or three Years time. And then as the Dwarfs ſpread and increaſe, they take away the tall ones quite, making Standards of them in Orchards; except you had rather chuſe to plant Vines in thoſe intermediate Spaces, which will quickly run up to the Top, and bear the ſecond or third Year.

As to the beſt Seaſon for planting, the general Rule to be given for *that*, is from the middle of *October* to the middle of *March*; only you muſt be ſure to avoid doing any Thing of this Nature in hard Froſts; and if your Trees in coming down happen to be overtaken by them, your only Way is to carry them into Cellars, laying what Mould you can get over their Roots, and plenty of Straw over that, ſtaying till the Froſt be gone, that you may plant them ſafely. Tho' I have ſaid that any Time betwixt *October* and *March* be the Seaſon of Planting, yet I prefer Planting in Autumn rather than Spring, for theſe two following Reaſons.

(1.) Becauſe a Tree planted in *October* or *November*, if the Ground be not over-moiſt and cold, will make ſome little Progreſs towards its future Growth during the Winter Half-year, its Roots ſwelling and diſpoſing themſelves to put forth thoſe ſeveral ſmall Fibres, which are to nouriſh and ſupport the Tree, and ſo prepare it for the kinder Influences of the Sun in the Spring? when alſo the Earth will be better fixed and ſettled about the Roots, ſo as to keep out the parching Winds of *March* and *April*, often fatal to young Trees, as well as new-removed Plants and Flowers.

(2.) Becauſe

(z.) Becauſe the Spring is a time when the chief of a Gardener's Work comes on, Digging, Sowing all manner of Seeds, Grafting, and ſome Pruning and Nailing, therefore it is not deſirable to have alſo the buſineſs of planting Trees to do then, when moſt of his other Buſineſs falls together upon his Hands. We commonly ſay, what is done in a Hurry is ſeldom done well, and when Buſineſs is once put into good Order, 'tis nigh half done: It makes a great part of a wiſe Man's Pleaſure and Diverſion, to have always ſomething to do, but never too much. And methinks we ſhould always chuſe to have Amuſements offer themſelves to us, not in a Crowd, but in a regular and orderly Succeſſion. Beſides, ſome Intervals of Time betwixt one ſort of Buſineſs in a Garden and another are very deſirable to a good Man, who knows how to recapitulate all his Pleaſures in a devout lifting up of his Hands, his Eyes, and his Heart to the great and bountiful Author of Nature, who gives Beauty, Reliſh, and Succeſs to all our honeſt Labours. Theſe grateful Thoughts, I own, theſe Contemplations in my own Garden, (with Hopes of living in Paradiſe it ſelf, where both Natural and Reveal-ed Religion will be better underſtood than they are at preſent) give me a comfortable Taſte of the Divine Goodneſs and Bounty, which alone give the trueſt Reliſh to every Thing elſe.

But to return, and to conclude this Chapter: Your Trees being planted according to the foregoing Directions, and ſtanding with their tall Heads till the beginning of *March*, tack'd to the Wall to prevent their being ſhaken with Winds, you are then to ſhorten their Heads according to the Rule already laid down; but great care muſt be had that it be done with a ſharp Knife and

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and a ſteady Hand, for fear of diſturbing the Root: Cut it ſlopewiſe, the ſlope facing the Wall.

CHAP. III.

Concerning the moſt agreeable Diſpoſition of a Garden.

AFTER an early and diligent care to furniſh our Walls with Trees planted after the beſt Method, and in the propereſt Seaſon, we will commit them to the prolifick Bleſſing of Heaven, that gives Life and fruitful Seaſons, and proceed to conſider what is to be done next, to make the other parts of the Garden agreeable as well as profitable. My purpoſe is not to give you all the varieties of Platforms, nor to lay out great Deſigns. Every one may eaſily pleaſe himſelf in a Form that ſtrikes moſt his own Fancy in ſo ſmall a piece of Ground as I ſuppoſe a Garden need contain: Only, it may be, I may happen to give ſome uſeful Hints to thoſe who are deſirous to hear what others can ſay to direct their own Fancies.

I would ſay then, that if I were to chuſe a Figure that could be as cheap and as eaſily had as another, it ſhould be a Square, or rather an Oblong-ſquare, leading from the middle of my Houſe, a Gravel-walk in the middle, with narrow Borders of graſs on each ſide for Winter-uſe, and on each ſide of them Rows of all the Varieties of Winter-greens ſet at due Diſtances, which will appear with an agreeable Beauty from the Houſe all the Year. But then I ſay too, that I ſhould be under no ſort of Uneaſineſs to be confin'd to an irregular piece of ground, which may be made to have its Beauties as well as the moſt regular. Strait Lines bring a-

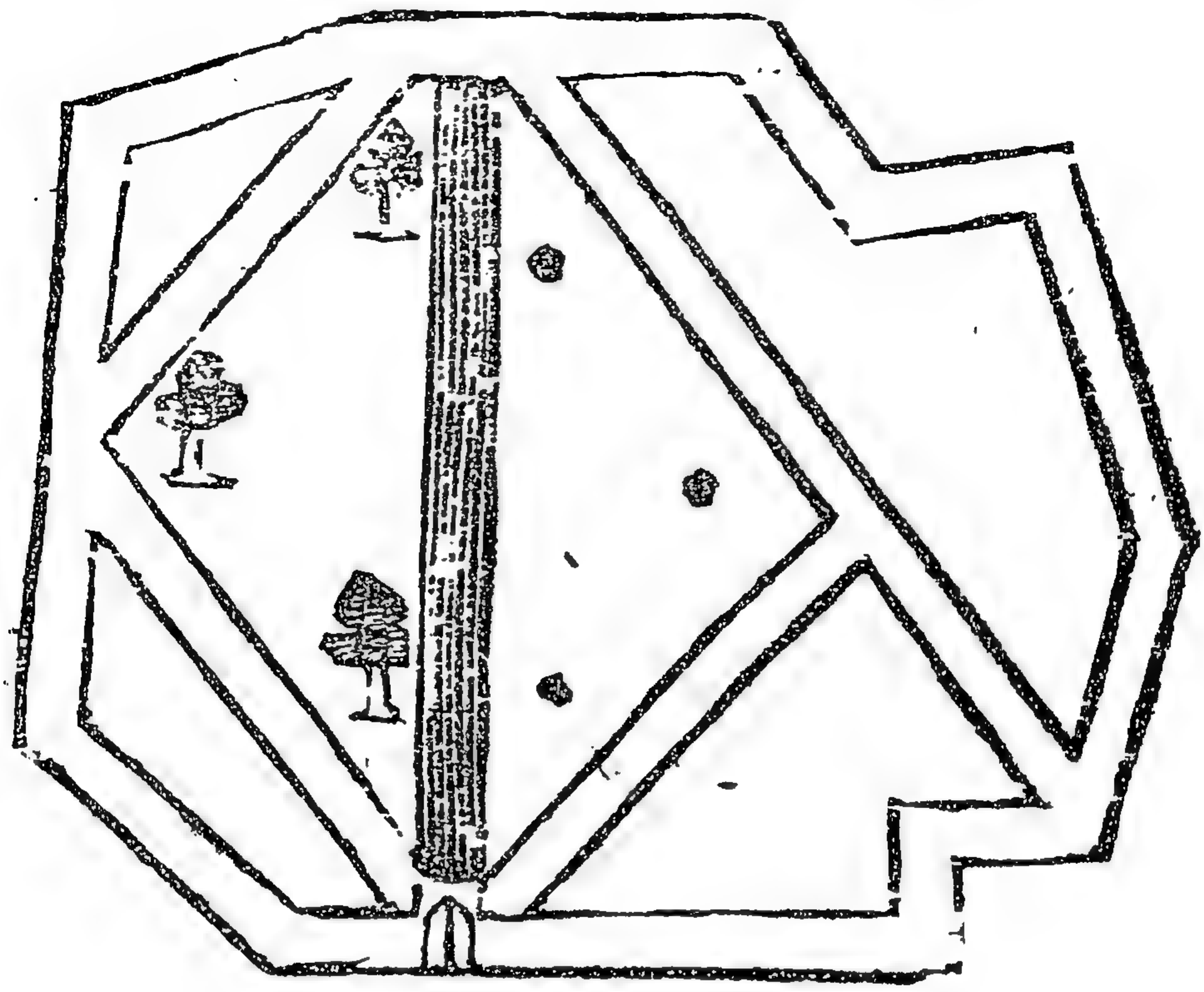
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ny thing into Order, and I see not but a Triangle in a Garden has its Beauty as well as a Square, and yet an irregular piece of ground may be made to have Both by vertue of strait Lines, *viz:* Borders and Walks.

I confess indeed, an Irregularity is not so easily hid in a little Ground as it is in a Garden of larger extent, where long Walks and tall Hedges interrupt a distant and thorough View, and where, though the Walks and Hedges terminate in obtuse or acute Angles, no ways disagreeable to the Eye; yet you are insensibly led into new and unexpected Beauties still as you advance. Three or four Walks of double Rows of Hedges may be there contrived to open themselves at once to view, all terminating in the place where you stand; and the Triangular Spaces, by an ingenious Fancy, may be there agreeably disposed and filled up either with Borders of Flowers, or with Dwarff-Trees, or with Flowring Shrubs, or with Evergreens? Or lastly, with a little Wilderness of Trees rising one above another, till you come to the point of a tall one in the middle; this last may be made to look very beautiful with Charge and Care to clip them; for I am now got into a large Garden that requires a good Purse; and therefore before I part with it, I will only add, that methinks Gentlemen should not be over-solicitous at great Charges, so to level or square their Gardens, as to throw them open to one single view from the House (which doubtless may be made a very beautiful one) because it may be worth while to consider, whether matters may not be so contrived, as to afford you many uncommon Prettinesses wholly owing to the Irregularity or Unevenness of the Ground; insomuch that every little advance you make, you shall be presented with something new to strike the Fancy. But

But altho' (as you ſee) Irregularities are beſt diſguiſed and ſet off in a large Plot of Ground; yet even in a leſſer Garden, and irregular Form, if it be not very aukward indeed, may be reduced to a Regularity ſufficiently agreeable as well as uſeful, as may be ſeen by the following plain Scheme.



But it is ſeldom one ſhall meet with ſo irregular a piece of Ground ready Walled out and deſigned for a Garden; and it can hardly be ſuppoſed any Lover of Order would chuſe to make it ſo, if he could eaſily help it.

As to the Walks, every one knows that both Graſs and Gravel are very agreeable when they are well kept; and therefore it is convenient to have a mixture of both; and I think ſeven Foot wide is ſufficient for either, in ſuch a Garden as I am ſuppoſing. Only it may not be amiſs to add, that it will be ſome advantage to your Fruit, if you contrive thoſe Walks that run parallel to your South-eaſt or South-weſt Walls to be Gravel, becauſe the Sun will certainly thereby reflex an additional

ditional Heat to them. I have ſaid nothing about the propereſt Materials for Walls, becauſe I ſuppoſe every one will chuſe to make uſe of ſuch as are neareſt at Hand, and what the Country affords. Brick is undoubtedly the handſomeſt and moſt commodious for Nailing; and conſidering what a great many Nails are uſed about Trees every Year, and that Lath-Nails will do for a Brick-Wall, I believe 'twill ordinarily prove cheaper than that of Stone, whoſe Joints are larger, and require much bigger Nails. However, there is another ſort of Wall very common in *Northampton-ſhire* and *Leiceſter-ſhire*, *viz.* That made of Earth and Straw, well tempered together, known by the Name of Mud-walls, which (tho' not ſo handſome) I venture to affirm (contrary to what moſt have ſaid) to be better than either of the two former, for accelerating the ripening of Fruit, as I my ſelf have found by Experience. The Fruit indeed is ſometimes apt to be ſoiled by great daſhes of Rain: But there is not much in that, and the Objection is wholly taken away in ſuch Fruit as requires paring, as Peaches and Pears, *&c.* If the Walls be made of very good Earth, and well temper'd, Nails will do, otherwiſe I uſe Pegs of Wood, ſuch as are uſed for bad Walls, for falt'ning the Branches. The large Coping of Straw that is laid upon theſe ſort of Walls is no ſmall Advantage to the Fruit, in ſheltering them, and keeping off all perpendicular Rains. But, as I obſerv'd, they are not very ſightly; and thoſe who will regard Beauty ſhould have Brick Walls.

It is not convenient to have the Borders under the Wall too wide; three Foot is ſufficient, that you may not at every Turn be forc'd to ſtand upon them to nail or gather. There are great Varieties of Aro

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maticks and other Plants recommended to support Borders, such as *Thyme*, *Winter-Savory*, several sorts of *Sedums*; but none I approve of so much as Dwarf-Box, in that it is so durable, and so easily kept with one clipping in a Year.

Great Care must be taken that no sort of tall Trees be suffer'd to grow in any of the opposite Borders, or intermediate Spaces, so that the Shade of them reach to any of the South-East or South-West Walls, whereby your Expectations of having good or early Fruit might be easily frustrated; those Places so near your Walls would be better filled with round Dwarfs kept hollow in the middle; or rather with flat ones, humouring the Borders with their Horizontal Branches; and what sorts are properest for these, I shall tell you in a Chapter by it self.

I never thought it any Disparagement to my best Garden, where I make my Soil commonly better than ordinary, to sow in some of the intermediate Spaces some of those Reptiles useful in the Kitchen, *viz.* Carrots, Onions, Parsnips, Spinage, *&c.* that it may answer its Purpose, a profitable as well as pleasant Garden; for these not growing tall, but kept clean from Weeds, are no unseemly sight at all, but rather make a pleasing Variety amongst Trees and Flowers. Indeed, I commonly chuse to banish out of this Garden all those prouder taller Things, Peas, Beans, Kidney-beans, and Cabbages, which are not so sightly, and look more ruinous; and therefore assign them a Place by themselves at a Distance.

It is needless to add any more Particulars under this Head; every one's own Fancy must supply what seems a Defect; for 'twould be endless to

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ſpeak to all thoſe Caſes that an uneven irregular piece of Ground might ſeem to require.

CHAP. IV.

of NURSERIES.

AFTER we have given our ſelves ſome Reſpite from the great Buſineſs and Concern of Planting, and diſpoſing the Ground, according to our own Fancy, (for that's the Beauty that pleaſes moſt) we muſt by no Means forget, as ſoon as poſſible, to begin to raiſe Nurſeries of all ſorts of Trees, which will be growing up to exerciſe our Art and Skill, and ſupply all our future Wants, which alſo will ſtill anſwer our Purpoſe of Pleaſure and Profit. And I am not for throwing ſuch Nurſeries too far from our daily and conſtant Inſpection, but am willing, if poſſible, to let the chief of them have a Place in the beſt Garden, leſt they be forgotten and neglected; for which Purpoſe an irregular Figure in a Garden is peculiarly ſubſervient, affording ſeveral little triangular Spaces, proper to raiſe the ſeveral Nurſeries we ſhall have Occaſion for.

Now there are at leaſt two diſtinct Places to be allotted for the Purpoſe of Nurſeries, *viz.* one for tall Standards, Apples, Pears, Oaks, Elms, Aſhes, Sycamores, and Limes, *&c.* which may be moſt proper to be at ſome Diſtance from the Houſe; and another for Dwarfs, ſuch as you intend for Peaches, Apricots, Pears, Plums, and Cherries. And I would alſo have a third added for all ſorts of Ever-greens by themſelves. Now theſe two latter may be very properly made in ſome ſuch by-places, as moſt Gar-

dens will afford, and that with no Interruption to the Beauty of it.

The Nursery you intend for the taller Standards should be made in a good rich light Soil, from the several sorts of Seeds peculiar to their kind, sown in *October* or *November*. Crabs and wild Pear-Kernels are not to be preferr'd for Stocks to make Apples and Pears. Limes and Elms are to be raised from planted Suckers; and if you sow Walnuts, 'tis advisable to sow them with the Green Shell upon them, to preserve them from Mice in the Winter. If this Nursery be well managed, and kept clean from Weeds for two Years, the third Year the Crabs and Pears will be fit for Grafting and Inoculating, the Method of which I shall briefly shew you in a Chapter by it self.

It will be convenient to have the Nursery for Dwarfs by it self, that they may not be overtopt by taller Trees. And you are to observe that the Stones of Peaches and Apricots are by no Means proper to raise those sort of Trees good or lasting: But for this Purpose you must get together a good Quantity of Stones, taken either from the Pear-plum, Muscle, or *Bonum magnum* Plum, which have been found by long Experience to be better and more lasting than any other. The not being careful about this Matter has been the Occasion of great Disappointments; the Trees often dying after two or three Years, tho' the Stocks have been alive. Black Cherries also are the only Stocks whereon to raise all the several sorts of Cherries; but the best Plum will do on any ordinary Plum or Sucker: Tho' 'tis not so advisable to use Suckers, even from the best sorts, because they will be constantly apt to put forth such plenty of Suckers themselves, and so the Vigour of the Tree may be too much exhausted that Way.

The

The third Nurſery alſo that I mentioned, of all ſorts of Ever-Greens, is a very pleaſant and profitable one, and deſerves a Place in our Garden; but it requires ſomething of a different Management from the two former. For which purpoſe you muſt provide your ſelf with a ſufficient Quantity of the Seeds, or Berries of Holly, Yew, and Juniper, which you may put into diſtinct but ordinary Pots or Boxes, putting alſo ſome fine Mould over them in the Pot, and ſo bury them for one Year. For if you ſhould ſow them (as other Seeds) immediately, they would not come up the firſt Year; by which Means you would loſe the Ground that Year, and have beſides the trouble and charge of keeping it clear from Weeds: Whereas by thus laying them in Heaps for one Year in any by-place, you will have them all ready by the following Spring to ſow out in order, and they will come up as other Seeds; only you muſt be very careful to keep theſe Beds clean from Weeds, which do ſo eaſily choke all Plants of ſo ſlow a Growth. A ſlow Growth indeed they have for the firſt two Years; but after that, they will recompence all your Labour and Care, by their Beauty, Uſefulneſs, and vigorous Growth: Whereas ſhould you content your ſelf to get theſe ſorts of Plants out of the Woods or Hedges, they will mightily deceive you. The greateſt Part of them will die; and the reſt will only toll you on with Expectations of their Growth, and yet will rarely prove vigorous and thriving Plants.

This laſt Nurſery will be of great Uſe to give new Beauties to your Gardens as Occaſion ſerves, or as your Fancy ſhall lead you to adorn it with ſeveral ſorts of Ever-green Hedges: Among which, none in my Mind is to be compar'd to the Yew, which is (as I ſay) ſo tonſile, and grows ſo very thick and beautiful

beautiful with clipping, and withal bids defiance to the hardeſt Winters, that it is the beſt and moſt laſting Ornament in a Garden. To make one in love with theſe Hedges, you need only take a walk either in Paradiſe or the Phyſick-Gardens at *Oxford*, where you are preſented with all that Art and Nature can do to make theſe things moſt agreeable to the Eye. Indeed, the Yew is a Plant that loves Uniformity, and is naturally apt to grow regular, and withal ſo intire that it is no very difficult matter to diſpoſe it either for Hedges or Pyramids.

Your Hollies will be beſt employed for Stocks to raiſe the ſeveral variegated ſorts by Grafting and Inoculation, which, tho' now common, are no inconſiderable Ornament to a Garden, making their beſt Shew, when all other things have loſt their Glory; eſpecially when they happen to be full of Red Berries, which make a moſt pleaſing mixture with white, or yellow, or green Leaves.

I ought ro tell you in this place, that Firrs and Pines are to he raiſed from thoſe little Seeds taken out of their large Apples, and they will come up the firſt Year, and will quickly make beautiful Trees, eſpecially in a cold Clay. *Phileréa's* and *Pericanthia's* will do beſt from Layers. And as for Vines and Figs, the Culture and Encreaſe of them is ſo eaſily had from Layers and Suckers, that you need not give your ſelf any farther trouble about them.

CHAP. V.

Of PRUNING.

IT is of all others the moſt important Concern of a Lover of a Garden, to know how to prune his

is Fruit-Trees ſeaſonably, and according to Art; hat when he comes to examine them at the time f Fruit, he may find ſomething more than Leaves r Wood. And yet I can by no means think it ſo ifficult a matter to do, as Monſieur *Quintinye* would make one believe, by his tedious and enigmaical way of Writing on this Subject, which (as far s I can ſee) has rather perplex'd than inform'd his Reader. I have had twenty Years Experience in this Matter; and if I can but ſpeak intelligibly, (as I hope I may) I queſtion not but to make others perform and practiſe as ſucceſsfully as I have done my ſelf. So great a deſire have I that the Love of Gardening may prevail, that it be not tired with great Charge and little Profit, but be rewarded with good as well as much Fruit. Now in the Buſineſs of *Pruning*, it is a hard matter to ſpeak to all Caſes in exact Method, or in the Order of Time; I ſhall therefore firſt lay down ſome general Rules as the fix'd Laws whereby every one ſhould govern himſelf in the Management of his Fruit-Trees, either Dwarfs, or thoſe againſt the Wall, and then proceed to ſome other particular Directions that ought to be well regarded for each particular ſort, tho' they have not ordinarily been taken notice of. To which purpoſe it is to be obſerv'd;

(1.) That the more the Branches of any Tree are carried Horizontally, the more apt and the better diſpoſed that Tree is to bear Fruit; and conſequently the more upright and perpendicular the Branches are led, the more diſpoſed that Tree is to encreaſe in Wood, and leſs in Fruit.

This is what I have long experienc'd to be true; and (as I conceive) the reaſon of it ſeems to be, That by bending down the Branches of a Tree from a perpendicular to an Horizontal poſture, you thereby check

check the Sap, or free circulation of it; (for that it doth circulate, I shall shew you in another place) which Circulation when Nature performs most freely, tends to growth and encrease in Wood; but when it any way suffers a check either by Art or by Accident in the Body or Root, less vigorous and luxuriant Shoots are form'd, and consequently more bearing Buds.

(2.) As a Consequence of the foregoing Proposition, you are ever to take care to keep the middle of a Tree free from great Wood, or thick Branches; but as these encrease and grow upon you, cut them out intirely; there is no fear but the place will be filled up again quickly with better and more fruitful Wood. In Dwarfs you are to keep all open, intirely free from Wood, leaving only Horizontal Branches: And in your Wall Trees, if you do but take care to furnish your Wall with Horizontal Branches, Nature will make an abundant provision for the middle; and therefore you must chuse discreetly such as are not over-vigorous Shoots, to furnish you with bearing Branches; a defect of which, or the want of plenty of Blossoms in any Fruit-Tree, is (generally speaking) a Reproach to the Skill of the Gardener. For tho' he cannot command Fruit from Blossoms, on the account of bad and unkind Seasons, and so cannot have it *when* he pleases, yet he may in a manner have it *where* he pleaseth, and keep almost all parts of the Tree in a bearing state.

(3.) Another general Rule to be observed is, to take care your Tree be not over-full or crouded with Wood, no, not even with bearing Branches, as is too frequently seen in the management of Peaches, Nectorines, and Cherries. Nature cannot supply a sufficient quantity of suitable Juices for them; and then the consequence will be, that none of them will be well

well ſupply'd, but the Bloſſoms will either drop off, or the Fruit will dwindle to n thing. However, this is certain, that a convenient ſpace between one Branch and another is moſt proper; a multitude and confuſion of Branches crouding one upon another, producing neither ſo much nor ſo good Fruit. So, croſſing one Branch over another is reckon'd very unſeemly, and is indeed contrary to the Rules of Art. But yet this is not to be thought ſo frightful a Sight, that we muſt conſtantly avoid it, even to the ſuffering void Spacesand Barrennels in the Wall, which is a greater evil. A ſlender-bearing Branch may often enough ſteal behind the main Body of the Tree, or ſome of its larger Branches, and not offend the Eye at all; but may gratifie the Taſte at the End of the Year. But ſtill this Practice muſt not be made too bold with, for fear of Confuſion.

Laſtly, I ſhall only add for a general Rule, that all ſtrong and vigorous Branches are to be left longer than weak and feeble ones on the ſame Tree, conſequently the Branches of a ſickly Tree are to be pruned ſhorter, and fewer in number, than thoſe on a ſtrong healthful Tree. Methinks I need not add that all Branches ſhooting directly forward from Trees growing againſt a Wall, are to be cut off cloſe to the Branch from whence they come; as alſo all Branches proceeding from the Knob, whereon the Stalk of a Pear grew, are to be intirely taken off; but not the Knob itſelf. After having given theſe general Directions, I am perſwaded an ingenious Lover of a Garden, by the help of ſome Obſervations that he muſt have made of his own, might manage the Buſineſs of Pruning with tollerable good ſucceſs: But becauſe there are ſome Peculiarities belonging to the Management of almoſt every kind of Fruit-Tree, ſuch, I now mean, as grow againſt a Wall) I ſhall

ſpeak diſtinctly and particularly to each of them, what I have found by Experience to be a good and ſafe Method of Pruning.

The VINE.

I ſhall begin with the Vine, which of all others, needs Pruning moſt; and tho' it is the eaſieſt performed, yet (as far as my Obſervation has gone) it is leaſt underſtood Our Climate is not ſo favourable, or the Sun over-bountiful of his Ripening Heats, but there is Need of all the Care, and the greateſt Art to cultivate and help Nature forward in bringing Grapes to any Degree of Perfection in *England*. However, this is to be done moſt Years with ſome Diligence and Skill. We will then begin with the Vine, in the Condition it is commonly left in *November*; which, if the Tree has any thing of Youth and Vigour, is confuſed and ruinous enough, tho' it has been carefully managed the preceding Summer, the Vine putting out the moſt and the longeſt Shoots of any other Tree. After therefore you have taken ſpecial Notice of the Firſt and Third general Directions already laid down, you muſt obſerve this alſo peculiar to the Vine, That the leſſer and weaker Shoots never bear any Fruit, and therefore muſt intirely be cut off, inaſmuch as they would only tend to weaken the Tree, in drawing away that Sap that ſhould go to nouriſh the Fruit-branches, which are thoſe of the moſt vigorous ſort; and therefore muſt carefully be preſerved, leaving only four or five Buds or Eyes of the laſt Year's Shoot; for if you ſhould leave more, they would only exhauſt the Sap in vain, the firſt and ſecond Eyes only bearing Fruit, and ſometimes the third, from the extreme part of the Branch. Indeed, when

a Vine has put forth a more than ordinary vigorous Shoot, and you can carry it Horizontally into a void place, it will ſometimes bear in five or ſix of the extreme Eyes, and ſo may be left longer; but this is not ordinarily to be practis'd. A Vine muſt lie thinner of Wood than any other Tree, therefore you muſt carefully view what old Wood may be intirely ſpared, and how you can conveniently fill that Space with Neighbouring vigorous Shoots, ſtill obſerving every Year to preſerve the new Wood, and to cut out the old. This firſt pruning of the Vine may be done at any Time before *February*; but later than that is not adviſeable, leſt it bleed in the Spring, which it will be very apt to do at thoſe Places where you have cut off any thick Branches.

There is alſo a ſecond and third pruning to be performed on a Vine: The ſecond is to be done about the middle of *May*, when the Bunches of Grapes are perfectly formed, and the Branch has ſhot two or three Foot long; then pinch off the Branch about ſix Inches above the Fruit, and nail or any way faſten it cloſe to the Wall, ſo that the Fruit may touch, if poſſible. The fruitleſs Branches may be let alone to the third Pruning at *Midſummer*, when all muſt be re-examin'd; for then you are to unburthen the Vine of that Multitude of luxuriant Branches it is apt to put forth, and to ſhorten them to a convenient length, to let in the Rays of the Sun, towards ripening the Fruit: Tho' you are to take Notice, that it is not convenient to have the Fruit too much expoſed, for fear of cold Nights and Rains.

A vigorous Vine will ſtill require a fourth pruning about *Auguſt*, when it will have ſhot out long Shoots, from the Extremity of the laſt Pruning; which therefore muſt be ſhortned again, and ſome

of the Leaves discreetly pluck'd away from before the Fruit

There is a more than ordinary Necessity for carefully minding and managing the Vine, because all we can do is little enough to get ripe Fruit, especially some Years, and on a bad Soil: But even with both those disadvantages, with a little Diligence and timely Care, there has seldom been a Year but I have had good Grapes, and most Years great Plenty. I have try'd some Experiments for accelerating the Ripening of Grapes, as putting the Fruit in *June* into an empty Flask, and running the Branches upon the Tiles of the House, or on a Slope-wall, but neither answer'd my Expectation. The Grapes indeed ripen'd in the Flask rather sooner, but then they were apt to be mouldy, for want of free Air, and had an insipid Taste: and the Slopes, tho' they admitted more of the Sun's Rays, yet they subjected the Fruit more to the Rains, Dews and cold Nights, which (as far as I could see) overpower'd the greater Blessing of the Sun To so little Purpose is it for Men of Theory * to Philosophize about these Matters, without having some Experience and Knowledge in the Practice.

The PEACH *and* NECTORINE.

Both these require the same Culture and Management, and therefore I put them together; and if the general Rules already laid down be but carefully observed, there will not need much to be said towards the Government and successful Pruning of these, which are so apt to put forth plenty of bearing Bran-

* As an ingenious Author has done, who has wrote a Book in Quarto to shew in a Mathematical Way the great Advantage of Slope-Walls.

ches after the ſecond or third Year of Planting, that you may eaſily make choice of thoſe that are good and healthful. If theſe Trees make too much haſte to bear, *that* is a bad ſign of Weakneſs, and they muſt be manag[illegible] accordingly, by plucking on all or moſt of the Bloſſoms or Fruit, and pruning ſhort. This is a very eaſie Management; all the Difficulty is, when a Peach is over-vigorous, for then Nature is apt to make great Confuſion, and it requires ſome Skill to know what to refuſe. You muſt therefore be ſure what to chuſe, and to cut out what great Wood can conveniently be ſpared, and what remains muſt be left the longer, ten or twelve Inches of the laſt Year's Shoot, not forgetting that in two or three Years it muſt be cut intirely out, when you can otherwiſe furniſh your Wall with ſmaller Wood. Fruit-bearing Branches, which are very eaſie to be known by their full and ſwelling Buds, are not generally to be ſuffered above five or ſix Inches. Theſe (as I obſerved) are always of the weaker ſort, and of the preceding Year's Shoot. You muſt take care to cut out all dead Wood, and yellow ſapleſs Shoots; which that you may be ſure to do, it is good for this and other Reaſons to ſtay till the hard Froſts are over before you prune a Peach, which muſt be done with a ſharp Knife too, otherwiſe Strings of the Bark will be left behind; a Pen-knife indeed is moſt proper for the ſmall-bearing Branches. All *Autumn* Shoots muſt be rejected as uſeleſs and unprofitable When you have thus trim'd and form'd your Tree into Beauty and Order, you have little elſe to do at it (except the thinning your young Fruit where more than two grow of a heap together) till *Midſummer*, when you muſt ſhorten the Shoots diſcreetly, and faſten them to the Wall, no matter in what Order, becauſe that muſt be alter'd the next Pruning, only

you

you muſt take care to let the Fruit ſee the Sun as ſoon as 'tis partly come to its bigneſs, which will give it its proper beautiful Colour, and Maturity alſo.

After what has been here ſaid, I cannot think it neceſſary to add any thing particularly with reſpect to the Apricot, that requiring the ſame Management as the Peach, except that there is no Danger of its bearing too ſoon, and that it is ſomething more apt to run into Wood, which therefore muſt be particularly conſider'd, and guarded againſt.

The PEAR.

There is no Tree requires the exact and careful Obſervation of thoſe general Rules laid down, ſo much as the Pear, which in free and rich Soils is apt to be unruly and ungovernable, running altogether into Wood and luxuriant Branches. It is commonly too proud for a Wall; but yet for the ſake of that noble Fruit which ſome Kinds produce by the Help of a Wall, it is worth while to humble him and keep him in Order. For which purpoſe (beſides what has been already ſaid) I ſometimes plaſh the moſt vigorous Branches, cutting them near the place from whence they ſhoot, more than half through, which effectually checks its Vigour, and conſequently renders it more diſpoſed to make weaker Shoots, and form bearing Buds. This Method of Plaſhing is alſo of ſingular Uſe, when you would avoid Barrenneſs, and have only an awkard Branch to make uſe of to fill the Vacancy: For by this means you may reduce it to what Order you pleaſe, ſo as to anſwer your Purpoſe, and reward you with Fruit. But you are to take notice that this is not to be practiſed on any Tree but the Pear and Plum; the

Trial

Trial would be too dangerous on the Peach or Apricot, becauſe they would be apt to put out Gum at thoſe Places, and ſo endanger killing the whole Branch.

I am aware that many recommend Grafting the Pear on a Quince Stock, which indeed effectually cures too great Luxuriancy and Growth, and may for a time anſwer the Purpoſe of bearing quickly, (which therefore may make it worth while for them that have a great Deal of Room to have ſome of theſe) but they are not long-liv'd do not bear ſuch fair large Fruit, nor make ſuch handſome regular Trees, as thoſe grafted on a Pear Stock, which I therefore chuſe to recommend to all thoſe who have not Room to try doubtful Experiments.

You will eaſily diſtinguiſh the bearing Buds of a Pear-tree, as ſoon as the Leaves are off in *November*, which are much fuller and more ſwell'd than others; which is to be carefully minded, that you do not cut them off in your Pruning. All falſe Wood, or, as others call them, Water-ſhoots, are to be taken away, being eaſily diſtinguiſhed by their having Eyes at much greater Diſtance than ordinary from one another: Theſe are found in moſt vigorous Trees, eſpecially Peaches. The Cock-ſpur is alſo to be taked off, *viz.* the Extremity of the laſt Year's Pruning. It is to be managed as the Peach in the Summer.

The FIG.

As this Fruit is commonly little known, and leſs valued by any, but thoſe who have *Guſtum Eruditum*, (in *Petronius*'s Phraſe) ſo, (as far as my Obſervation has gone) the Management of the Tree ſeems to be as little underſtood. For as I have hitherto given

Directions

Directions for the right Pruning of other sorts of Trees, so I must here direct and recommend the not Pruning at all. The not understanding of which has, to my Knowledge, been the Occasion of that Barrenness, so visible in many Noblemen's and Gentlemen's Gardens. There is no Tree that doth generally produce more certain and plentiful Crops than this, if it be rightly manag'd, or rather if you keep the Knife from it.

But when I say it must not be pruned, I only mean that its tender Branches are not to be shortned, as in other Trees; because it is plain it puts forth its Fruit chiefly at the Extremities of the last Year's Shoot, commonly at the three last Eyes; any part of which if you take away, you cut off and destroy so much Fruit. But yet this must not be supposed to hinder you from taking out the great Wood entirely, to avoid Confusion, and also to cut some of the weak smaller Shoots close to the great Wood, these being of no Use but to exhaust Sap. Whatever therefore you cut from the Fig, you must do it as close to the Root, or any great Wood as you can, and that no earlier than the latter end of *March*, for fear of Frosts and cold Rains: Only it is advisable to tack its best and biggest Branches close to the Wall in *November*, that they may be the better shelter'd from the extreme Frosts in the Winter. Be sure to keep it free from Suckers, which this Tree is apt to put forth plentifully. And I think there need nothing farther to be said for the Government of this Tree, if the three first General Rules be but observed as they ought.

Cherries and Plums require little Skill to make them bear against a Wall in almost any Soil, and therefore there needs nothing to be added to the general Observations laid down. I shall only take No-

tice

tice before I conclude this Chapter, that both Winter and Summer *Bon-Cretien* Pears want more Room to ſpread and extend themſelves than any other; and therefore if you expect them to bear, you muſt allow them Elbow-Room and Height too; for if you ſhould confine them by ſhort Pruning, they will grow Knotty, and full of Wood without Fruit. I have my ſelf ſeen the Summer *Bon-Cretien*, in the Garden of my worthy Friend Dr. *Wickait*, now Dean of *Wincheſter*, bear plenty of noble large Fruit, betwixt twenty and thirty Foot high. There alſo I have eaten excellent Figs, from a proſperous Tree, even the ſame that afforded ſome to King *James* I. near a Hundred Years ago, as appears (I think) from a *Memorandum* on the Wall.

CHAP. VI.

Of GRAFTING *and* INOCULATING.

THESE two Operations in Gardening are pretty Philoſophical Entertainments to a Lover of Curioſities in Art and Nature; and therefore, tho' they have been fully treated of by others, yet becauſe they make up ſo great a Part of a Gardener's Diverſion and Pleaſure, at two ſeveral Seaſons of the Year, I ſhall deſcribe and explain the Method of performing both diſtinctly, that this ſmall Treatiſe may not be thought deffective in ſo conſiderable a Point.

There are ſeveral ways of Grafting, but I ſhall mention only two, that I think moſt proper to the ſeveral Kinds of Trees. The firſt is that common way of Slit-grafting, which is performed on Pear, Cherry, and Plum-ſtocks, eſpecially if they are of any bigneſs; by firſt chuſing a ſmooth place in the

Stock where you would graft, cutting the Head off ſlopewiſe; then *even* the Top of the Slope Horizontally with your Knife, making a Slit down the middle of the Stock diſcretly with a ſtrong Knife, or otherwiſe; then prepare your Scion taken from a vigorous Shoot of the foregoing Year, ſloping it on each ſide from a Bud or Eye, ſo that it may conform it ſelf to the Slit in the Stock, the Bark of Scion and Stock cloſing exactly. Let it be daub'd pretty thick over with Clay, temper'd with ſhort Hay, taking care not to diſturb the Scion, which muſt not be left with above three or four Eyes above the Stock. The other way is much preferable to this, but can ordinarily be performed only on Apples and Hollies, the Bark in others not handſomely parting from the Wood, as it muſt. The way is to cut off the Head of the Stock ſlopewiſe, *&c.* as before, and inſtead of ſlitting the Stock, ſlit only the Bark a little above an Inch on the back-ſide of the Slope; then prepare your Scion made with a flat Slope about an Inch long, ending on a Point, and begun from the back-ſide of an Eye; but becauſe it may diſturb the thin end of the Scion, to raiſe the Bark of the Stock, where you made the Slit, get any other piece of ſmooth Wood cut ſlopewiſe as the Scion, and thruſt it down betwixt the Wood and the Bark, which you will find readily to part, and then put in your Scion ready prepared, the Top of the Slope being thruſt as low as the Top-ſurface of the Stock. Clay it over as before, and leave as many Eyes. This I find to be almoſt a never-failing way for Apples and Hollies; and I prefer it to the other, becauſe it doth not give ſo grievous a Wound to the Stock by ſlitting it, which ſometimes proves fatal. Beſides, in this laſt way, the Scion does much ſooner heal over and cover the Stock, whereby the Union is entirely compleated.

The

The firſt Operation muſt be perform'd on Pears, Cherries, and Plums, the latter End of *Febʀuary* or beginning of *March*, but Hollies and Apples muſt not be grafted till the beginning of *April*; it is convenient that your Scions be cut off a Fortnight or three Weeks before you uſe them, and laid in the Shade.

But notwithſtanding both theſe Ways may prove ſafe and proper Methods for propagating thoſe ſeveral Kinds of Fruits, yet I much rather prefer, and therefore recommend that other Operation, called Inoculation or Budding, the Method of which I ſhall now deſcribe: Cut off a vigorous Shoot from a Tree you would propagate any Time a Month before, or a Month after *Midſummer*; then chuſe out a ſmooth Place in your Stock (which ſhould not be of above three or four Years Growth) making a downright Slit in the Bark of it, a little above an Inch long, and another croſe-wiſe at the bottom of that, to give way to the opening the Bark. Then with your Penknife (not too ſharp at the Point) looſen gently the Bark from the Wood on both ſides, beginning at the bottom; which done, prepare your Bud taken from the aforeſaid vigorous Shoot, which muſt be cut off with a ſharp Penknife, entring pretty deep into the Wood, as much above as below the Bud, to the Length of the Slit in the Stock, as near as you can gueſs. After the Bud is thus cut off with the point of the Pen-knife and your Thumb, take out the woody part of the Bud; and if, in doing this, the very Eye of the Bud come out, and leave a deep Hole, throw it away, and take another. Then put this Bud in between the Bark and the Wood of the Stock, at the croſs-ſlit already opened, leading it upward by the Stalk where the Leaf grew, 'till it exactly cloſes: Then bind it about with coarſe Woollen Yarn, the better to make all parts of it cloſe exactly, that the Bud may incor-

poiate it ſelf with the Stock, which it will do in three Weeks time, when you muſt looſen the Yarn, that it doth not gall the place too much, as it will be apt to do in a vigorous Stock. This Operation is beſt perform'd in a cloudy Day, or at an Evening; and you are to obſerve, the quicker it is done, the better it will ſucceed. For tho' a pretty many Words are neceſſary to deſcribe the Method of doing it, yet after a little Practiſe, and that you are become ready at the Work, thirty Inoculations may be done in an Hour: But you may take Notice, that it is convenient to put in two or three Buds into one Stock, eſpecially Peaches and Nectorines, that you may have the better Hazard of having one Hit, which is enough.

Peaches, Nectorines, and Apricots, are not to be raiſed any other way but by Inoculation; and as for Pears, Cherries, Hollies and Plums, tho' (as I have ſhewn you) they may be Grafted, yet I prefer Inoculating them, for theſe following Reaſons.

(1.) Becauſe it is the ſureſt and leſs hazardous way; nay, if the Stock be but vigorous, and not over-big, it is almoſt a never failing way; for by putting in two or three Buds into one Stock, it will ſeldom ſo happen but one of them will hit, and that's enough; whereas in Grafting you are forc'd to make a dangerous Experiment, by cutting off the Head of the Stock; and if the Scion do not take, the Seaſon is loſt, and your Stock maimed.

(2.) I prefer Inoculation, becauſe it may be performed by any Gentleman himſelf, with more Pleaſure and leſs danger to his Health. It requires no daubing with Clay, only a Penknife and a little woollen Yarn, which are both portable, and therefore always ready to be made uſe of, whenever his Meditations ſhall give way to his Pleaſure. Beſides,

this

this Operation is perform'd in Summer and warm Weather, when it is healthful as well as pleaſant to be buſied in a Garden with ſome ſuch little Amuſement. Whereas the Seaſon of Grafting is in the Spring, when there is more Danger of taking Cold in a Nurſery, where you muſt expect wet Feet and dirty Hands.

Laſtly, if you begin to bud in *June*, and you find it doth not ſucceed, (as you may find in three Weeks) you may make a ſecond Attempt the ſame Year on the ſame Stock, and that with very good Succeſs: For in ſome caſes a Diſappointment is very undeſirable; as when you would change the kind of Fruit on a Stock againſt the Wall, the ſooner your End is compaſs'd the better.

However, if you are forc'd to practiſe upon large Stocks, you muſt be content to graft, becauſe when the Bark is become thick and ſtubborn, it will not readily part, nor ſo handſomely cloſe upon the Bud. But if the Graft happen to miſs (as it will be very apt to do in large Stocks, if you do not take care to leave a leading Branch to carry up the Sap which would otherwiſe choak the Scion) thoſe ſlender Shoots which ſhall be made near the Grafting-place will do right well to inoculate on, ſometimes even in the ſame Year.

The Cherry, Plum, and Pear, but eſpecially the latter, if the Stocks be any thing vigorous, almoſt never fail to anſwer your Expectations in Budding; and there is one more Advantage here, above what can be had in Grafting with reſpect to the Plum, *viz.* That you may inoculate pretty ſurely any Plum on a Damſon, or Wild-Plum-ſtock, which yet will be ſure to fail you if you Graft on it. But yet this General Rule is always to be regarded, with reſpect not only to this, but all other Stocks;

that

that 'tis a vain Expectation to hope for Succeſs if the Sap do not run well (as we ſay) that is, if the Bark will not readily be perſuaded to part from the Wood of the Stock by the help of a Penknife.

No ſort of Fruit is more untoward, and more apt to deceive you in Budding than the Apple, becauſe the Bark is not ſo ready to part as in other Fruit. Yet I have my ſelf practis'd it ſeveral times with Succeſs on vigorous Shoots put forth near the Place where the Graft failed.

Any time between the beginning of *June* and the latter end of *Auguſt*, Allowance being made for different Seaſons, you may inoculate moſt Trees; nay, I have ſeveral times Inoculated Pears in *September* with good Succeſs. But it muſt be taken notice of, that the Branch or Shoot which you make choice of for Buds to inoculate with, muſt not lie by any time (as in Grafting) but muſt be immediately made uſe of, as before directed.

The ſeveral Kinds of Oranges, Lemons, ſtrip'd Philarea's and Jeſſamines, are to be propagated by Inoculation. And now I mention the Jeſſamine, I cannot but take Notice to you what a noble Demonſtration the yellow ſtrip'd Jeſſamine has afforded us, of the as certain Circulation of the Sap in a Tree, as of the Blood in the Body of an Animal; which matter, altho' it has been believ'd by ſome, yet it has been denied by others. And therefore becauſe it has not as yet (as far as I can learn) been brought to any Certainty or Demonſtration, I ſhall here relate the Means of this noble Diſcovery by virtue of Inoculation.

Suppoſe a plain Jeſſamine Tree, ſpreading itſelf into two or three Branches from one common Stem near the Root. Into any one of theſe Branches in *Auguſt* inoculate a Bud taken from a yellow ſtrip'd Jeſſamine,

Jeſſamine, where it is to abide all Winter; and in the Summer, when the Tree begins to make its Shoots, you will find here and there ſome Leaves ting'd with Yellow, even on the other Branches not inoculated, till by degrees in ſucceeding Years the whole Tree, even the very Wood of all the tender Branches, ſhall be moſt beautifully ſtrip'd and dy'd with Yellow and Green intermix'd. It is not material whether you cut off the Branch above the Inoculation to make the Bud itſelf ſhoot; for it will have the ſame Effect of tinging by degrees all the Sap of the Tree, as it paſſes by or through this Bud, and communicating its Virtue to the moſt diſtant and oppoſite Branches, tho' the Bud it ſelf ſhould not ſhoot out. Nay I have my ſelf ſeveral times experienc'd that if the Bud do but live two or three Monrhs, and after that happen to die, or be wounded by any Accident, yet even in that little time it will have communicated its Virtue to the whole Sap, and the Tree will become entirely ſtrip'd. This Diſcovery undoubtedly proves the Circulation of the Sap. *Q. E. D.*

What further Uſes and Obſervations may be made from hence, I leave to other Philoſophical Genius's and curious Enquirers into Vegetable Nature; and ſhall only add to this Chapter, that when you find in the Spring, or the time when the Tree begins to ſhoot, your Inoculation takes, and the Bud looks green and freſh, you muſt not forget in all Caſes (except this of the ſtrip'd Jeſſamine) to cut off the Head of the Stock ſlopewiſe, about an Inch above the Bud, the ſlope ending on that ſide where the Bud is. It may not be amiſs alſo to add, that where you put in more than one Bud, it is not convenient to place them juſt one above another, but ſidewiſe.

CHAP.

CHAP. VII.

Concerning the proper Diſpoſition of Trees againſt a Wall; the beſt Kinds of each; their Order, and Time of Ripening.

IN ſpeaking to theſe ſeveral Points, there are great Allowances to be made for the great variety and difference of Soil, which as to the ripening and perfecting of Fruit has more in it than moſt People are aware of. For I queſtion not but a good Soil, *viz.* a rich, deep, ſandy, mix'd Earth, in fifty four Degrees of Latitude, will do more towards accelerating the Ripening the beſt Fruit, than a bad one, *viz.* a ſtiff cold Clay, will do in fifty one. And ſo a North-weſt Wall in an extraordinary good Soil will do as well for a Buree or a Vine, as a South-weſt Wall will do for the ſame in a bad one in equal Degrees of Latitude. The Rules therefore that I ſhould lay down muſt be calculated for the common State and Condition of moſt Places in *England*, which generally want all the Advantages that Art can give them to Ripen the beſt and lateſt Fruit. Moſt that know any thing of Gardening can tell, that a Peach, an Apricot, and a Vine are to be ſet againſt their beſt Walls; but as for Figs and Pears, tho' of the beſt *French* ſort, they are ordinarily crouded into any Corner, or againſt a North-Eaſt or North-Weſt Wall; whereas in Truth many of them deſerve the very beſt Place in the Garden, eſpecially in ſuch a Garden as lyes upon the moiſt Clay, which yet may be made, by the Directions already laid down, *Chap.* 1. agreeable enough to the beſt Pears, Figs, and Plums. And truly thoſe who

have

have the Misfortune of a cold Soil, I cannot but advise not to drive too much against Nature, in aiming to have the late Frontiniack Grapes, or the choicest Peaches, especially if they lie open and unguarded from the cold Winds, their Expectations will be quickly tired with watry unripe Fruit; whereas if they did but suit their Soil with proper kinds, they might be rewarded with something good: For I am of Sir *William Temple*'s Mind, that a good Plum is much better than a bad Peach.

As to an exact and proper Catalogue of the best kinds of the several sorts of Fruit, no other can be expected than what the Author most approves of himself, who, in this case, can be supposed to act no otherwise than is common with a Physician as to his general Rules and Directions in Diet for preserving Health, *viz.* to prescribe what he loves himself. If then there is not found in this small Catalogue (suited to the Garden and Persons designed) that particular favourite Sort which some Persons may expect, let it not be concluded that all others but what are here named are condemned as naught; but rather that it is thought adviseable not to perplex a Lover of Fruit with an unnecessary number and variety of sorts, when he has room only for a few good ones of each Kind. He that has room, and would encrease his Collection, may have recourse to Monsieur *Quintinye*, or to the Abridgement by Mr. *London* and *Wise*, and he will quickly have his Curiosity satisfied. In the mean time I shall satisfie my self with such a Collection as seems most proper and suitable to the Garden I am supposing. But before I begin it, I ought to say thus much first, That it must not be thought strange, if sometimes the Fruit here recommended do not answer, but prove watry and insipid, there being a certain agreeableness of

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Soil peculiar to almoſt every kind of Fruit; at leaſt thus much is certain, that a good ſort of Fruit may prove bad in ſuch a Soil as will make another good ſort excellent in its kind; and the beſt Peaches may prove bad, where Pears and Apricots will excel; neither ought we too haſtily to conclude and give judgment againſt what may only prove bad from an unkind Seaſon. But when it is found by Experience that the Soil and the Kind do not agree, the beſt way is to loſe no more time, but either prepare another for his place, or alter the ſort by Inoculation, which is very eaſy and quickly to be done, if the Stocks be good, and not too big.

The beſt Peaches to be planted againſt a South-Wall, (or inclining to the Eaſt or Weſt) as follow in the Order of their Ripening:

	Ripe.
The White Magdalene,	Middle of *Auguſt.*
The Minion,	
The Right Old *Newington*	Beginning of *September.*
The Chevreux,	
The Admirable,	Middle of *September.*
The Nivet,	
The Red Roman Nectorine,	Middle of *Sept.*

Apricots will do againſt Eaſt and Weſt-Walls.

	Ripe.
The Maſculine Apricot,	Middle of *June.*
The Orange Apricot,	Middle of *July.*

Figs muſt be planted againſt a South-Eaſt or South-Weſt-Wall. Only two ſorts good,

The White Fig,	End of *Auguſt.*
The Long Purple Fig.	

A Catalogue of the beſt *French* Pears that require the beſt Wall and Aſpect you can give them, and will not be ripe till ſome time after they are gathered.

Ripe.

	Ripe.
The Summer Bon Cretien,	Beginning of *Septem.*
The Buree du Roy	End of *Septem.*
The Verte-Longue,	*October.*
The St. *Germain*,	*Novem.*
The Spaniſh Bon Cretien,	*Novem.*
The Ambret,	*Decemb.*
Colmar,	*Decemb.*
Chryſan,	*Decemb.*
The Winter Bon-Cretien,	*March.*

Some other good Pears that will do on North-Eaſt or North-Weſt Walls;

The Orange Bergamot,	}	*September.*
The St. Katherine,		
The Rouſellet,		
The Black Pear of Worceſter,	}	for Baking.
The Pound Pear,		

Peculiarly good for Dwarfs;

The Swan's Egg,	[*Nulli ſecundum*]	*Octob.*
The Bergamot,	}	both well known
The Windſor,	}	in *England.*

The foregoing ſorts, recommended for North-Eaſt and North-Weſt Walls, will alſo do well for Dwarfs, if Occaſion be; as there are alſo many other ſorts might be added: but needleſs Varieties I recommend not.

It is very adviſeable to plant in ſuch places as are moſt expoſed to Comers and Goers, thoſe Kinds of Winter-Pears that are hard and unpalatable, whilſt they are on the Tree; otherwiſe the Owner will reap little elſe but Diſappointment and Vexation. That ſide of the Houſe, or indeed any of the Out-houſes, which is expoſed to the South, will do ſingularly well for the Ambret, the St. Germain's, but eſpecially for any of the *Bon Cretiens*, (except the Summer, which is too tempting) theſe loving

room and height; and as delicious Fruit as they are, will not abide to be taſted a ſecond time, when newly taken from the Tree. The Winter *Bon Cretien* is remarkable for keeping longeſt, and all the ſorts of them are as remarkable for anſwering ſo well the Purport of their Name *Bon Cretien*, or *Good Chriſtian, Sound at Heart*; (the right ſort, alas! hard to be met with) for as in time they begin to decay and rot in the outward Parts or Pulp, ſo it is obſerv'd that the Core or Heart continues generally ſound to the laſt.

There are ſeveral ſorts of Grapes, and moſt of them in ſome good Years will ripen in *England*; but I think the white Muſcadine, and the black Cluſter Grape, are the only ſorts that one may depend upon, to have ſome pretty good, almoſt any Year. I need not ſay that all of them expect the beſt Wall and Aſpect we can give them, to help them to that Maturity and dulcedinous Juice which make it either pleaſant or ſafe to eat them in any Quantity. But let the Wall or Aſpect be never ſo good, yet I muſt repeat it, that if it lie open and expos'd, without any break of Hills or Wood at a Diſtance, you will certainly be deceiv'd in your Expectations of good Fruit.

The White Raiſin-Grape, admirable for Tarts, where there is Room enough.

There are alſo a great variety of Plums, and ſome of them ſo good as to deſerve the beſt Walls, as the blue and white Perdrigons and Imperial Plums; but ſuch as follow are thoſe I recommend for Dwarfs, Standards, or North-Eaſt and North-Weſt Walls:

The Orleans,
The Muſcle.
The Queen-Mother, } Plums.
The Damaſcene,
The Violet,

Fothering,

Fothering, a good Bearer, fine Plum.
Perdrigon, blue and white, very good.
Le Royal, the beſt Plum that grows; but a bad bearer.
Drop of Gold, a yellow Ruſſet, good.
The white Bonum Magnum, } for Baking.
The Pear Plum, }
The Damſon every one knows to be good, and it is to be raiſed from the Stone, or by Suckers without grafting, beſt a Standard. There are many other good ſorts which I mention not, becauſe they are generally idle ill Bearers.
Moſt Cherries will do on Dwarfs or Standards, but are mended againſt a Wall: As,
The Orleans or Bloody Heart, } on Eaſt or Weſt
The *May*-Duke, } Walls.
The Morella on a North Wall.
But the Common Flemiſh is quite ſpoiled againſt a Wall.
It will be neceſſary before I conclude this Chapter, to add, That the time of Fruit's Ripening is very different in different Years; and tho' I have fix'd the general time, yet it muſt not be wonder'd at, if a bad Year make ſome Fruit, eſpecially Winter-Pears, a Month or two later, before they come to their Maturity; only I have obſerved, when they much exceed their uſual Time of Ripening, they are never ſo good, and have not their true rich Taſte.
N. B. When it is adviſed here, to plant ſuch a Tree againſt a South Wall, if that Wall happen to decline ſome few Degrees to the Eaſt or Weſt, it is never the worſe, but altogether as good, provided the Declination be not above fifteen or twenty Degrees, becauſe in that Caſe the Wall would enjoy the ſame Time, and as many Hours of Sun-ſhine: But when I ſay an Eaſt and Weſt Wall will do for

an-

an Apricot, 'tis ſuppoſed that there is not the leaſt Declination towards the North; for that would wholly defeat the Deſign and Expectation of the Planter; ſo that if it have any Declination, it were to be wiſh'd it had it toward the South.

N. B. An Eaſt Aſpect is better for all ſorts of Fruit than a Weſt; not that it can be ſuppoſed to have more Hours of Sun-ſhine; but becauſe the early Rays of the Sun take off thoſe cold Dews which are apt to fall and hang upon Fruit in the Night, which in the Caſe of a Weſt Wall, are not taken off till later in the Day, and conſequently the Fruit is more ſubject to be chill'd. Whether this will be thought a good Reaſon, or the only Reaſon, I cannot tell; but thus much is certain in Experience, that an Eaſt Wall is better and kinder for all Fruit, than a Weſt; and I cannot eaſily be brought to believe that there are any peculiar inherent Virtues and Qualities in the Eaſtern Rays of the Sun, that ſhould cauſe this Difference in Vegetation.

N. B. I have ſaid nothing about the Management and Culture of Rasberries, Strawberries, Gooſeberries, and Corants, becauſe little Skill is required, beſides this one Rule, that they are not to ſtand too long in a Place, nor above four or five Years before they be renewed, eſpecially Strawberries, which muſt be kept clear from Runners all the Time of their Bearing.

N. B. It is of very miſchievous, if not dangerous Conſequence, to let Roſemary grow too near any of your Fruit-Trees, eſpecially if they be young; for that will not fail to rob them of ſo much of their proper Nouriſhment, as that they will be infallibly weaken'd, if not in danger of being kill'd.

The

The CONCLUSION.

I Have now gone over ſome of the moſt conſiderable Particulars relating to the Art of *Gardening*, and (I hope) not *mal à propos*. Thus much, at leaſt, I have endeavoured, To ſpeak intelligibly, to lay down my Rules and Obſervations, in a tolerable Method, and to avoid unneceſſary Prolixity: All which I have conſtantly had in my Eye, that I might in ſome Degree attain the End I aim at, *viz.* To make thoſe Perſons (eſpecially thoſe of my own Order) who may not have had ſo much Experience in this particuiar Science, in love with ſo innocent, ſo agreeable, and ſo profitable a Diverſion.

I might have added (as ſome others have done) a Chapter about the ſeveral Diſeaſes which the different ſorts of Trees are ſubject to; but except a proper Remedy were alſo added, it is to little purpoſe to mention the Diſeaſe: And as far as my Obſervation has gone, I plainly perceive moſt are incurable, and therefore have always choſe to have Recourſe to my Nurſery for another to put in the Place. The Gum and Canker are plainly incurable, and the part affected muſt be cut off, except there remain a ſound part ſufficient to convey the Sap: Wet cold Soils are moſt ſubject to theſe; and therefore in ſuch Caſe, the beſt preventing Phyſick you can give, is to plant high. Moſs ſhou'd be carefully rubb'd off with the Back of a Knife, or piece of Hair-cloth, after a Showre of Rain.

Becauſe both Graſs and Gravel-Walks are ſo much the Ornament and Beauty of a Garden, and do afford ſo conſiderable a Pleaſure, to a thoughtful, contemplative Perſon, I cannot but here inſert a ſpeedy effectual Method of deſtroying Worms, thoſe filthy Annoyers and Spoilers of the Beauty of all Walks.

At any Time in Autumn, fill a Ciſtern or any large Trough with Water, putting thereinto a large Quantity of Walnut-Leaves, where let them ſteep at leaſt a Fortnight or three Weeks; in which Time the Water will have received ſuch a Bitterneſs, that if you pour gently a ſmall Quantity of it on ſuch Places as are moſt annoyed with Worms, by that Time the Water can be ſuppoſed to reach them, you will find the Worms hurrying in great Confuſion out of their Holes, ſo as to crawl in great Plenty under your Feet upon the Ground, where they may be gather'd up and thrown away. They may indeed be taken by a Candle and Lantern in a Summer's Evening after Rain; but this may be practiſed at any Time in the Day with pleaſure, and it will certainly deſtroy them, if it be but carefully practiſed and repeated: Only

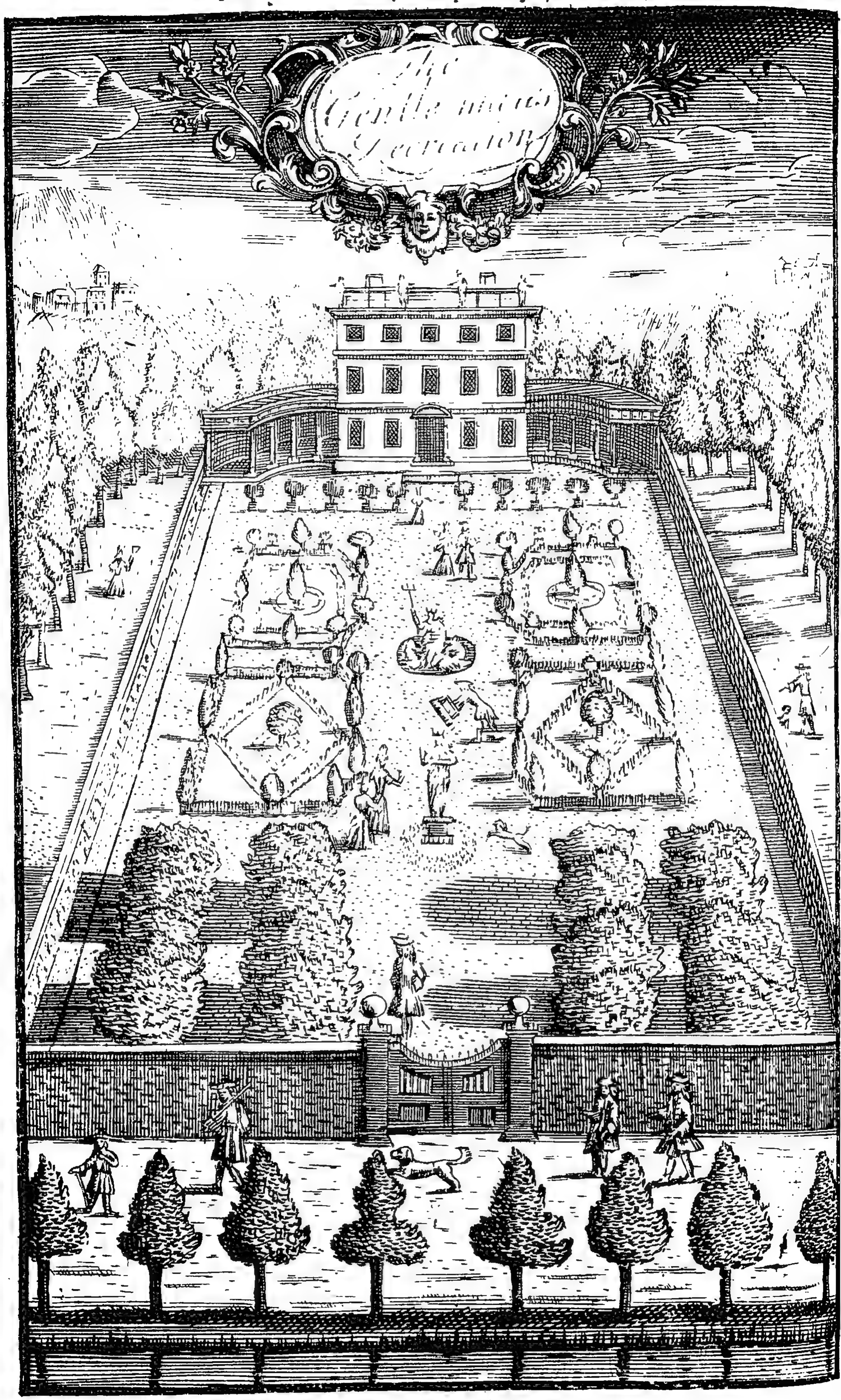
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be ſure to put Walnut-Leaves enough, that the Water be very bitter, otherwiſe it will do no good.

It is very convenient to have ſuch a large Ciſtern or Stone-Trough, as I here ſpeak of, as for the foregoing Uſe, ſo alſo for a Treaſury of Rain Water, wherewith to refreſh your Flowers and new-planted Trees in the Droughts of *April* and *June*. And for this Reaſon it ſhould be fix'd under ſuch Parts of the Houſe where the greateſt Plenty of Rain-Water is made to deſcend, where alſo it will be found to be not a little ſerviceable to the Family in the Winter. And if it ſhall be thought difficult (as indeed it is) to procure ſuch a ſort of Stone as will endure the hard Froſts in the Winter; as a Remedy for this, I my ſelf made an Experiment upon a very brittle Stone-Trough, which the Maſon himſelf told me would not endure the Froſt, and it ſucceeded according to my Expectations. I uſed it for ſalting Meat in the Houſe, for two or three Months, till I thought it was throughly ſoak'd with Brine, and then ſet it abroad, and it has already endured ſix Winters, and defied even the great Froſts in 1708.

N. B. I have ſaid nothing concerning Apples, becauſe they are generally Standards, and require little Art to manage them; and if they are Dwarfs, muſt be ordered as Pears. It would be endleſs to mention the beſt Kinds; For thoſe are the beſt, that are beſt and moſt proſperous in that particular Soil and Place: each County having commonly its known and peculiar ſort of Apple, which they call Beſt, which would not, it may be, prove beſt in another.

FINIS.



THE
Gentleman's Recreation:
OR THE
SECOND PART
OF THE
ART of GARDENING
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Containing several New EXPERIMENTS and Curious OBSERVATIONS relating to FRUIT-TREES:

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Illustrated with Copper Plates.

——— *Si quid novisti rectius istis,*
Candidus imperti; si non, his utere mecum. Hor.

By *JOHN LAURENCE*, M. A.
Rector of *Yelvertoft* in *Northamptonshire.*

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The Third Edition.

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THE PREFACE.

THE Encouragement and favourable Reception which my former Treatise of Gardening hath met with in the World, makes me here engage a second Time on the same Subject, and venture to enlarge on some Experiments and Observations, which the Nature of that intended short Essay suffered me only just to touch upon.

I was afraid of engaging too far at first. lest I should not be able to make an honourable Retreat: But since the Gentlemen as well as Clergy, have been pleas'd to accept and like what I have delivered in a plain and familiar manner, and have generally honoured it so far as to complain only of its Brevity; Decency and good Manners oblige me to remove those Complaints, and to address my self now to the Gentlemen, as I have already done to those of my own Order, persuading them also to love a Garden by the same Two powerful Motives of Pleasure and Profit.

The PREFACE.

The Apology for engaging in these Matters as a Clergyman, I will not repeat, because it hath been very kindly admitted: Neither indeed do I look upon this Science so remote from the Business of a Clergyman, as is generally thought. It is a mix'd Subject; and the Moral is, as it were, interwoven with the vegetable World. Man having an active, busy Principle within him, it is of great Consequence what Sort of Entertainment and Exercise of the Mind he chooseth; for, according to that Choice, he either dignifies or dishonours his Nature,

It is no small Felicity to a Man, when his Pleasure tends also to his Perfection: For most Men's Pleasures are such as debase their Natures; and we commonly gratify our lower Faculties, our Passions, and our Appetites; and these do not improve, but depress the Mind.

All the extravagant Pursuits of Ambition and Avarice, of Lust and Revenge, of Luxury and Intemperance, do of themselves tend to debase Man's Nature, and sink it down into a great Resemblance of that of the Beasts below him. Whereas on the other Side all the manly Exercises of Reason and Religion, of Devotion and Contemplation, of Justice and Charity, give such Beauty and Lustre to human Nature, that it is raised thereby to a very near Resemblance of the Angelick Order: So that indeed according to the Way of Life, such is Man's Nature; either made worse, or much improved.

'Tis true, we know not the Nature and Laws of the Union of Soul and Body, and therefore cannot easily determine how the Thoughts of our Minds and the Motions of our Bodies act in Dependence one upon another. We know not what are the primary Differences of Genius's and Complexions, and how our Intellectuals or Morals depend upon them. But I have often thought, there are many

many Ideas of Pleasure, that have lain buried in the Ruins of corrupt Nature, for want of being early roused, and made to exert themselves by proper Objects, before the over-bearing Power of sensual Delights hath taken Place. And therefore I question not, but we might soon see a more virtuous and enlightened Age, if it were but rescued from the intolerable Tramels of Logick and Rhetorick, the Aversion and Bane of Youth, and some of the easy Parts of Natural Philosophy, Practical Mathematicks, and Gardening Operations substituted in their Place: By which Means, young Persons may be discreetly tol'd on by easy and familiar Methods, in all such innocent Exercises of the Mind and Entertainments of Life, as may probably lay a Foundation for a contemplative Genius, and produce a virtuous and useful old Age.

Had Man continued in the Garden of Eden, *as he came out of the Hands of his Maker, I doubt not at all but Contemplation and Devotion would have been his chief Exercise and Delight; as most suitable, not only to the* State, *but to the* Place *of Innocence: And I as little doubt, that if Angels were confined to these lower Regions, they would seek the Retirement and Pleasure of a Garden, as most agreeable to their heavenly Dispositions.*

* *How soon and in what manner a* Palingenesia *or Renovation of Things is to be expected in the* Millennium *is not my proper Business here to enquire: But thus much is to my present Purpose to say, that the more we accustom our selves to the several intellectual Pleasures of Meditation, Contemplation and Devotion, the fitter shall we be to regain Paradise; those divine Exercises raising Men's*

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* Isa. 65. 17. Mat. 19, 28. Act. 3. 21. 2 Pet. 3. 13. Rev. 10. 4. Ch. 21. 1, 2, &c.

Men's Minds into a greater Similitude of the divine Nature, that ſo, in Irenæus's * *Senſe,* paulatim aſſuefcant capere Deum, *they may by Degrees accuſtom themſelves to receive God.*

The Exerciſe of a Garden and the Entertainments of Contemplation will appear ſtill the more deſirable, if one conſiders how difficult and dangerous a Thing Converſation is now become, and indeed made ſo by the corrupt Paſſions and Humours of Mankind. For how difficult is it, for even the wiſeſt and moſt cautious Man, to ſtart a Subject in Converſation that ſhall be pleaſing and inoffencive? To talk of the Weather is low, mean and peaſantly. To extol the Excellencies of Friendſhip, and to enumerate one's Friends is good; but how hard are they to be met with? To rail at our Enemies, and to detract from thoſe we envy, how unchriſtian is that Practice, and truly Offenſive to a great and generous Soul? And then I ſuppoſe I need not tell a thinking Man the Uneaſineſs of being ty'd to the impertinent Converſation of ſuch, as can talk all Day and ſay nothing.

Indeed the Subject of Philoſophy, or any real uſeful Point of Learning, is pretty, if one could but ordinarily *hope to find Philoſophers or learned Men. Beſides, (ſhall I not ſay?) It is not every Point of Learning that muſt be ſtarted or will be born with. Divinity for inſtance; eſpecially any of the more nice and abſtruſe Points thereof, is one of the* Noli me tangere's. *Articles of Faith explain'd, which the Church is* in Poſſeſſion of, *are held by a Sort of entailed Right from the fourth Century down to the preſent Times: How much improved, I will not ſay. Infallibility is indeed plainly diſclaim'd by Proteſtants; but yet, ſtrange as it may ſeem, an* indiſputable *Authority in the Church will be maintain'd, and*

L. 5. Cap. 32.

and private Persons will not be suffered to doubt of, or dispute so sacred a Thing as a long Tradition.

What now is to be said to these Things? Learned Men are not to be met with every Day, *and Texts of Scripture are already settled: There remains hardly any general Topick of Discourse but Politicks; and yet tho' every one pretends to much Skill in it,* that *of all others requires the greatest Prudence to enter into it, or to manage it without Danger of Offence to one Side or other. For except a Man can resolve to be thorough-paced, to go through thick and thin with a Party, he will hardly escape being charged with want of Zeal or want of Courage; tho' all wise By-standards may easily perceive, that there are Numbers of both Parties will run into very unjustifiable Extreams. The Church, without any certain Idea or determinate Meaning of the Word, is always made the outward Mark of Zeal of one Side and t'other: And if the Measures that are concerted for the promoting her Interest are not lik'd, you will not fail to be branded (if not for an Enemy to the Constitution, yet) for a* Renegado *or a* False-Brother.

Who would now chuse to thrust himself into Company, when Company and Conversation are become so ensnaring and dangerous to an honest Man? I confess, if Preferment be the Thing a Man aims at, as what he either wants or waits for, if he have but Wit and Parts, he may in Time compass it, by going all the Lengths *of a Party: But I am now speaking to Gentlemen of Honour and Probity, who would serve their Country by those two Principles, and themselves with every Thing that is innocent, safe, and entertaining. And shall I need to tell such, that all the best and noblest Entertainments are to be met with in a Garden? There a Man may converse ~~with~~ his God, by contemplating his Works*

of

of Wonder in each Flower and in every Plant: And then the devout Admirer cannot but lift his Eyes and his Heart in Praise of the great Creator of all Things.

There a Man may converse with himself, and consider, that whilst he is uncorrupted by vain Conversation, *whilst he is busie and innocent, his Garden is his Paradise, a Sort of Heaven upon Earth, that gives him a Disdain to those low sorry Principles of Ambition and Avarice, that hurry on other Mortals to pursue the vain Phantoms of Honour and Wealth.*

Others may plot, dissemble, and struggle to get Authority and Power, and All, it may be to no Purpose too; but here a Man is Lord of All, the sole despotick Governor of every living Thing. The tallest Cedar, as well as the lowest Shrub, is subject to his Government and Care. Faults may be found and mended without any repining or starting at Alterations. The Wanderer may be reduced, and the Crooked made strait by easie and gentle Methods: And because the Strength and Prosperity of any Government consists in the Multitude of People, the Barren may be made to rejoice in a numerous Issue.

In short, whatever Government even the Fancy can paint to him to be either better or more beautiful, that Form is presently submitted to. This is no imaginary Pleasure neither, but real and personal; a Garden affording such pleasing Morals in all the Parts of it, that nothing but the greatest Stupidity could carelesly pass them by unapply'd.

However, it is not my Business here *so much to act the Part of a Divine as the Politician; not so much to direct the Application of these Things to the Mind, as to lay down such Rules of Government, as may serve to heighten the Satisfaction of a thinking Genius: A Man must needs of course form pleasing Ideas to himself, when he*

he finds Heaven and Earth, Art and Nature all conspire to make him happy in his Retirement, and each Subject of his Care to make obedient Returns of Profit and Increase.

I own my self to be no Judge of Politicks out of *a Garden, as what I take to be none of my Business; and whether* in *it I have drawn any pleasing Picture of Monarchy, or said any Thing to the Purpose of good Government, I must leave to the Judgment of all those ingenious Gentlemen, to whom I here address my self; and shall only add, That* I *have the rather perswaded my self to engage in this Subject with this View and Hope; that what I have said of the Pleasure and Profit of a Garden, may in some Degree serve to abate the prevailing Vices of Ambition and Revenge, and re-instate a more manly Pleasure, in the Room of some boisterous Exercises and fashionable Diversions, which too often end in the dishonour of Almighty God and our Holy Religion.*

THE

Gentleman's Recreation:

Being a SECOND PART of the Art of GARDENING Improvcd.

The INTRODUCTION.

NOTHING is of greater Conſequence to any Gentleman that is a Lover of a Garden, than to have a Piece of Ground near him of a pliant, fertile Nature a Soil eaſy and kind to all ſorts of Trees and Plants, either natural or made ſo by Art; becauſe then he has the Pleaſure of ſeeing every thing proſper and flouriſh, that he either ſowes or plants. Whereas the Want of ſuch a Bleſſing gives continual Uneaſineſs to him that has waited long, and ſtill waits in vain for the deſired Fruits of his Labours; eſpecially if it hath been attended with

with great Cost and Charge ill apply'd. Happy indeed are those Persons that have a good Soil, where Nature itself performs so liberally, that there needs little Labour, Cost or Care to make both their Kitchen and their Fruit Garden to abound with Plenty of every thing best in its kind; such Persons are not so much concern'd with what I have here to offer to the World, as those are, who have many other Difficulties and Discouragements superaded to the constant and necessary Care required in a Garden either of Pleasure or Profit. However I flatter my self the following Instructions may give some general and useful Hints to such a Genius, as loves to *improve* and *assist* Nature, and has a true Relish of the Beauty of Prosperity and Plenty in a Garden. For which Purpose I have always endeavoured to consult the Inclinations of Nature, that the most *natural* Methods might be taken to have the most and the best of its Products. For I think 'tis a Rule amongst Naturalists, that we should *follow* Nature and not *leave* it. Though we may safely do many things, which Nature *would not* or *could not* do; yet we are never to hope for Success, if we do any thing contrary to Nature *.

In

* I could never understand, why some Persons should take so much Pains to invert the Order of Nature, in making the Branches of some Trees take root, and then dig up the Roots to convert them into Branches; which if it *could* be done, so as to continue, could be of no manner of use; and must be reckoned among the *Difficiles Nugæ*. The like may be said of those Attempts of grafting Apples on Pear Stocks, or Vines on Cherries, &c.

In my former Treatiſe on this Subject I endea-
ured, not only to ſpeak plainly and intelligibly,
hat I thought proper to aſſiſt Nature in all its Pro-
ctions; but alſo to range what I ſaid in Order,
d put it into ſome agreeable Method. Whereas
this, which I deſign rather as an Appendix to the
mer as it conſiſts of ſome additional Improve-
nts and Obſervations, I hope it will not be ex-
ted that I ſhould obſerve a very exact Method.
thoſe ingenious Gentlemen, for whoſe ſake I
e been perſuaded to communicate ſome farther
oughts on this Subject, will, I preſume, excuſe
pardon that Defect; provided their Expectati-
be but in ſome ſort anſwered, by meeting with
thing *new* and *inſtructive*: And yet I de-
nothing may be embraced for its *Novelty*, ex-
at the ſame time it be ſupported by *Reaſon* as
as *Experience*. So that I humbly hope, if I do
re to go out of the common Road, It will not
terpreted to be any ſort of *Hereſy* in this Science;
ſe I now addreſs my ſelf to the politer Part of
aity, to the Gentlemen of good Senſe and Judg-
who are not ſo apt to *ſhrink* and be *affrighted*
w Diſcoveries of undeniable and rational
s, as ſome others are, who by their Profeſſi-
commonly tied down all their Lives to one
ular Set of Thoughts; whereby their Under-
ngs and Judgments are often cramp'd, and
t ſuffered to act out of their own narrow

If this ſmall Eſſay for ſome farther Improvements in the Art of Gardening, happen to fall into the Hands of ſome ſuch μικρόψυχοι, *narrow-ſoul'd* Perſons, I eaſily gueſs the Reception it will meet with. But for others, Gentlemen of a liberal Education and general Knowledge, with ſuch I have been ſo well acquainted, eſpecially ſince the Publication of my former Treatiſe, and have received ſo many ſingular Favours from many of them unknown before, that as I think my ſelf here obliged to acknowledge their undeſerved Civilities, ſo I muſt alſo ſay, that I fear no Hardſhips or ill Treatment from that Quarter. I am very eaſy to think, that this ſmall Eſſay, humbly ſubmitted to the Judgment of wiſer Perſons than my ſelf, will not fare the worſe for coming from a * Clergyman, who always owns theſe Things to be the Fruits of his *Diverſion*, not of his *Study*; having other Cares of much greater Moment always upon his Hands, and that lie next his Heart, even the difficult Charge of inſtructing and *leading* many Hundreds of Souls in the Way to Heaven.

Having premiſed thus much; before I proceed to give any particular Directions and Rules, I would have it yet obſerved, that the Deſign of the following Treatiſe is to put Gentlemen into a Method of having the *moſt* and the *beſt* of all ſorts of Fruit, and that in the *eaſieſt*, the *cheapeſt* and moſt *expeditious* way. Such an Attempt, I preſume,

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* It may not be amiſs to take notice here of the Anſwer which a profeſs'd Gardiner gave to a worthy Gentleman, a Friend of mine, who happen'd to ask him how he liked the *Clergyman's Recreation*. *Why alas! Sir*, (ſays he) *—the Author is a Parſon.*

ſume, will not be *unacceptable*; and thoſe who have vaſt Gardens, much Walling, and a Multitude of Trees, and at the ſame time not Fruit ſufficient for their Table, will think it very *ſeaſonable* and *neceſſary*. I ſuppoſe I need not make an Apology for this; there are ſo many Gentlemen that have a feeling Senſe of it. It will therefore be worth while, firſt to aſſign the general Reaſons and Cauſes of that Defect, and then we ſhall be the better able to ſeek for a Cure and apply a Remedy.

The Firſt General CAUSE *of* BARRENNESS.

ONE great Cauſe of the want of Fruit in many Gardens, is, a lying too much open and expoſed to the Winds, eſpecially the *Weſt* and *South-Weſt* Winds, which in many Parts of the Year made terrible Havock and Deſolation in our Iſland; not only by *blaſting* the Fruit in the Spring; but by *chilling* and *ſtarving* the Fruit all the Summer, ſo as to hinder its coming to any due Maturity. And with reſpect to Standards and Dwarfs, there is no little danger of the Fruit being torn off before 'tis ripe by the Violence of unguarded Winds. There are commonly many Cauſes concur to the increaſing this great Evil. As for inſtance; an open Vale betwixt two Hills at a diſtance; a long Canal with tall Trees on each ſide; or ſome Groves of Trees with large Opens or Viſto's between them. Theſe, with many other accidental Cauſes of Buildings, *&c.* do many times occaſion ſuch perpetual and vio-

lent Currents of Wind, that 'twere a vain Expectation to hope for either *much* or *good* Fruit in a Garden that lies open and expoſed to ſuch external Violence. I need not therefore ſay that the firſt and earlieſt Care muſt be taken to guard againſt this dangerous Enemy, by planting Lims or Elms in a *Quincunx* order at a convenient diſtance from the Garden; but as near to one another as may be, that no time may be loſt in procuring the deſired Fence and Security.

However I am well aware, that the Situation of a Garden may be ſuch, that this Evil may be in a manner incurable; and a Gentleman may have the Misfortune to find his Garden upon ſuch a Hill, and ſo expoſed on all ſides to the Violence of Winds, that no artificial Shelters *can* ſecure him. In all ſuch Caſes, there is no other Remedy, but to change Place, to look out for a more convenient Situation at ſome greater diſtance from the Houſe, where a proper Piece of Ground may be allotted for a Fruit-Garden and nothing elſe; whence even Flowers and all unprofitable Weeds ſhould be baniſh'd. Neither ought this to be look'd upon as a chargeable Scheme, attended with any doubtful View of Succeſs: For I can eaſily make it appear, that in many other Caſes beſides this of being without Remedy ſubject to blaſting Winds, it is the ſureſt and moſt unexceptionable Method, to have a peculiar Piece of Ground allotted by it ſelf, diſtinct from that which is properly called the Garden of Pleaſure; The Deſcription whereof I ſhall reſerve to its proper Place; and ſhall only obſerve here, with reſpect to the particular Point I am upon, that there are theſe

following

following Advantages attending the preſent Scheme. For,

(1.) This will once for all effectually cure the Evil complained of: Inaſmuch as it cannot well be imagined that any Gentleman's Seat ſhould be deſtitute of a ſmall Piece of Ground ſufficiently well ſhelter'd from Winds, either by Trees, or Buildings, or both, if it be choſen diſcreetly for that Purpoſe.

(2.) Another Benefit in this Scheme will be; That you will have a Fruit-Garden exactly to your Mind, neither too little nor too big, and exactly right as to its proper Situation and Expoſition to the Sun, in all reſpects anſwering the Purpoſe of a profitable Fruit-Garden, to be managed according to Art, with Trees, both Wall and Dwarf, ſet at their proper diſtances.

(3.) Here will be an Opportunity given for the building new Walls with *Horizontal Shelters*, which (as I ſhall ſhew preſently) are attended with incredible Advantages, both for the ſecuring the Fruit in the Bloſſom from Froſts and Blaſts in the Spring, and for accelerating its ripening afterwards.

(*Laſtly.*) Another very conſiderable Advantage ſtill in the Choice of a new Garden, is, that there will be an untry'd Soil to work upon, which will infallibly produce vigorous healthful Trees, if it be rightly managed and choſen, and the Trees themſelves afford early, large, and beautiful Fruit, if they be pruned and ordered as they ought. To all which I need not add, that by Means of ſuch a little retired Garden, you will have the Fruits of your Care and Charge ſecured to you from all Comers and Goers, which in a large and ſpacious

Garden of Pleasure is found to be a Matter of some Difficulty.

But before I leave this first general Cause of Barrenness in a Fruit-Garden, *viz.* lying too much exposed, I cannot but here take Occasion to add, by Way of Remedy and Cure; That there is commonly a very great Mistake committed in building Garden Walls too high, even to the Height of 14 and 16 Feet. Which hath these two great Evils attending it, besides the unnecessary Charge of it; it subjects the upper Part of the Trees to the blasting Winds; and it tempts the Gardener to run up the Branches of the Trees direct and perpendicular, in order to cover the Wall as soon as may be. This Method indeed will soon cover the Wall with Wood; but as it is contrary to the Rules of Art, there will soon plainly be discerned a Defect and Want of Blossoms and Fruit in the middle Part of the Tree, which will be more visible in the Pear than in any other Sort of Tree. But this being not the proper Place to rectify this Mistake in Pruning, what I am here to observe and take notice of at present is only this; That nothing but a manifest Want of Room can excuse or justify the building Garden Walls too high, when it is plain there is a certain Charge for a very uncertain and doubtful Profit. I have always thought that 8 or 9 Feet high is sufficient to answer the Purpose of the most vigorous Tree, provided it have but Elbow-room enough; and I suppose too that that Height will be thought a sufficient Guard against

* Foreign

* Foreign Invaders of Property; if at the ſame time you will but make this general Exception, That nothing is ordinarily ſtrong enough, not even the Grace of God, to ſtop and conquer the Perverſeneſs of Man's Will and his wicked Inclinations.

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* It may not be amiſs here to relate, That at my firſt coming to my Pariſh, I found ſome Difficulty to preſerve my Fruit from Robbers: Hereupon I reſolved upon this Stratagem. I ordered the Smith to make a large Iron Trap with formidable Teeth to cloſe one within another, which was to be called a *Man-Trap*. This was hung up ſeveral Weeks at the Smith's Shop *in terrorem*, giving it out, that now there would be great Danger, if any one ſhould attempt to rob my Garden. This, without ſetting the Trap, ſucceeded according to my Wiſh, and I have not been ſince robb'd theſe 12 Years. *Note*, Reſtrain'd, I hope too, not altogether by Terror, but from better Principles.

The Second General CAUSE *of* BARRENNESS.

HAVING under the aforegoing Head pointed at one great and manifeſt Cauſe of Unfruitfulneſs in many Gardens, and directed, as I hope, a ſufficient and proper Remedy, I ſhall now aſſign a ſecond general Reaſon for the ſame Defect, and I hope alſo I ſhall be able to apply an eaſy and effectual Cure. The Reaſon that I would here aſſign for Barrenneſs, is, the having too much Walling and too many Trees. This may look at firſt Sight like a ſtrange Paradox; That becauſe a Gentleman has great Variety of Walling and Abundance

bundance of good Trees, that *therefore* he ſhould have but little Fruit. But as ſtrange as this may ſeem, Experience will juſtify the Truth of it, and I doubt not at all but to make it appear, there are good Reaſons to be aſſigned, why it muſt, generally ſpeaking, have that Effect.

For let it but be well conſidered what little Care is taken in a very large Garden, that every Tree have its due and proper Pruning, and we ſhall not wonder if they do not bear their proper Quantity of Fruit; nay, frequently that they bear little elſe but Leaves. The Graſs and Gravel Walks ſhall not want their ſeaſonable Mowing and Rolling: The ſeveral Sorts of Ever-Greens ſhall not want their due Clippings to preſerve their Beauty and Figure. The ſeveral Sorts of Flowers are planted in their proper Earths, and removed at their proper Seaſons, to give them all the Variety of Colours to pleaſe the Eye; All theſe Parts of a Garden are reſpected with, as it were, a religious Care, and complemented with their timely Dreſſings and Culture, to give only an entertaining Proſpect and pleaſant View. And excepting the Caſe of ſome ſweet-ſcented Flowers and Shrubs, there is but one Senſe gratified with the Expence of Nine Parts in Ten of a fine Garden. For alas, after the Attendance that is given theſe Things I have been ſpeaking of, what a little Portion of Time and Labour will be afforded the Fruit-Trees againſt the Wall, or the Dwarfs wherever they are? If the Wall-Trees can but be perſwaded to be brought within the Compaſs of a *Semicircle*, and the Dwarfs made a little *Concave*, all is generally thought to be well enough, without any great Regard had to what is proper to be choſen,

and

and what to be refuſed; much more, without any Care to put the Tree into a bearing State for another Year. Nay it is but too commonly ſeen, that even the beſt Sorts of *French* Pears againſt the beſt Walls in ſome Gardens, ſhall have no other ſort of pruning, than what a good Pair of *Sheers* affords them; whilſt it may be the Gardener would bluſh to have a *Weed* found in his Borders. I confeſs this ſort of unequal Management ſometimes raiſes Indignation in me, and I cannot here forbear to expoſtulate the Caſe a little with ſuch who are nicely careful to maintain Beauty and Regularity in all other Parts of the Garden, wherein they are to be commended; but will not be perſuaded to allot a due Proportion of Care and Labour to the nobleſt and moſt profitable Part.

For let us here but reflect a little, and reſolve (as we ought) to proportion our Value and Eſteem to the intrinſick Worth of Things, as they more or leſs ſerve to entertain the Senſes, and anſwer the innocent Appetites of human Nature. Do the ſeveral Colours in Flowers ſerve to ſtrike the Eye with their Variety and Beauty, and thereby form pleaſant Ideas in the Imagination and Fancy? What leſs than all this can we think the ſeveral Fruit-Trees, cloathed with their different colour'd Bloſſoms, will do? If they be managed with Art, what a pleaſing Entertainment is it to the Eye, to behold the Apricot in it's full Bloſſom, white as Snow, and at the ſame time the Peach with its crimſon-colour'd Blooms, *both* beginning to be interſperſed with green Leaves? Theſe are ſucceeded by the Pear, the Cherry and the Plum, whoſe Bloſſoms and Leaves make a very beautiful Mixture in the Spring; and it cannot be a leſs pleaſant

pleasant Sight to see Clusters of swelling Fruit all the Summer, as the Earnest of the full Gratification of another Sense in Autumn. And now we are come hither, what Painter can draw a Landskip more charming and beautiful to the Eye, than an old *Newington* Peach-Tree laden with Fruit in *August*, when the Sun has first begun to paint one side of the Fruit with such soft and tempting Colours? The Apricot, the Pear, the Cherry and Plum, when they appear in Plenty as they ought, present themselves to the Eye at the Time of ripening in very inviting Blushes. In short, all the several Sorts of Fruit-Trees have such pleasing Varieties, that were there no other Sense to be gratified but the *Sight*, they may vie with a Parterre even of the finest Flowers. But then when we come to consider, that all this Beauty rewards the careful Pruner with Plenty also of the most delicious *Fruit* to gratify the *Taste*, there can be no Comparison admitted, and no Excuse can be made for the least Want of Care, to assist Nature in her kind and generous Inclinations.

However it is the Observation of this *Want* of Care, and the manifest *Neglect* of the best and most profitable Part of a Garden, which has made me thus expostulate the Case, and with what View I have done it, may easily be perceived. For if, where there is much Walling, and Fruit-Trees abound in great Plenty, there is yet so unequal a Portion of Time and Art allotted for their Management, a necessary Consequence of that must be *Barrenness*, which is the Disease I am inquiring into. Having therefore here in some Measure discovered the Cause of it, we are now to seek out for a proper Remedy and Cure.

Now

Now there are but two Ways of curing this Evil of Barrenneſs, proceeding from a too great Abundance of Trees: Either firſt to allow a proportionable Help and Aſſiſtance, for the due and careful Management of ſo many Trees; or elſe ſecondly to *reduce* the Fruit-Garden, and bring it into a much leſs Compaſs, that every Tree may be ſure to have its proper and ſeaſonable pruning and nailing. But why I prefer this latter Method, much rather than the former, I ſhall give theſe following Reaſons.

(1.) There is more Care and Attendance required for the due Management of a ſingle Fruit-Tree, than is commonly thought on or expected. The Pear and the Vine eſpecially, which require the beſt Walls, will not be put off with any *ſuperficial* Pruning. The former muſt be frequently check'd, and even *maimed* in it's moſt vigorous Parts, to hinder its luxuriant Growth; and the great Wood, eſpecially in the middle, muſt be ever carefully rejected: And as for the Vine, *that* will not be ſatisfied with leſs than four ſeveral Prunings and Nailings within the Year. And I ſhall need to tell the vigilant Gardener, how much Buſineſs it is, to diſpoſe according to Art the ſeveral tender Branches of a Peach or an Apricot? Now where there are great Numbers of ſuch Trees in a Garden, as far as my Obſervation has gone, they are generally neglected, and put off with much leſs Care and Attendance than they require; the neceſſary Conſequence whereof is *Barrenneſs*. To Cure which therefore, I ſhould think it a much better Way to leſſen the Number of ſuch Trees, to confine the beſt Fruit-Garden to a narrower Compaſs, than to allow a proportionable Help,

and

and what will be thought an extravagant Charge, for the proper Government of so many Trees; especially if,

(2.) It be considered, that *that* may easily be shewn to be an *unnecessary* Charge and Trouble: Because, as will appear presently, the End and Purpose of having a sufficient Quantity of Fruit may be obtained in a *less* rather than in a *large* Garden; and consequently at a much easier and cheaper Rate. I always take it for granted, that every one covets to have as much Fruit as he wants, with as little Charge, and in as small a Compass of Ground as may be; that is to say, in short, to have a great deal of good Fruit in a little room. If there are some who will not grant me this, I desire that what follows on this Head may go for nothing; but where it will be granted, I hope the following Reasons, Arguments and Calculations will be particularly considered, and I doubt not at all, but it will plainly appear, that many Gentlemen have hitherto been under great Mistakes, when they have enlarged their Gardens with that particular View and Expectation of having *more* Fruit.

To make this matter then as clear and intelligible as I can, I have here annex'd two distinct Schemes or Plots, both furnish'd in such Order and with such Fruit Trees, as are proper to their different Situations and Aspects to the Sun; whereby it will appear what Variety and what Quantity of good Fruit, may with Reason and great Probability be expected from a little Spot of Ground, allotted solely and particularly for the Purpose of a Fruit-Garden. If it be here objected and wondered at, as I expect it will, that I should allot so little

walling,

walling, and ſo ſmall a Space of Ground, as only 40 Yards ſquare to ſerve a plentiful Table with Variety of the beſt Fruit, I deſire it may be particularly conſidered and examined, what probable Quantity of Fruit a Tree pruned and managed according to Art, may reaſonably be ſuppoſed to bear, and then I am perſuaded the Objection and Wonder will very much ceaſe, if not wholly vaniſh.

Let us then begin with the Peach, which in a bearing Year, and when the Tree hath well-nigh covered the Wall, will ordinarily bear a hundred or more of large fair Fruit; and if the Tree be in a proſperous State kept free from great Wood in the Middle, and hath the Advantage of Horizontal Shelters (of which more preſently) you need hardly ever fear having ſuch a Quantity from every ſingle Tree. But becauſe that Number may be thought too great to be depended upon, let us take only half, and ſuppoſe every Peach-Tree to bear fifty fine large Peaches. An ample annual Reward for Care and Diligence! Now in both Schemes I have allotted Seven Peaches on the beſt Walls, the Product whereof at a moderate Computation, will be 350 of the beſt and largeſt Fruit, which ordinarily ſucceeding one another in their ripening, even on the ſame Tree, will afford a regular and daily Gratification to the Taſte in this one Article of the Fruit-Garden: But leaſt even this Abundance ſhould not be thought ſufficient, more Peach-Trees may be ſet in the Room of the two Vines in the one Plot, and the Winter Bon Crêtien and the La Chaſſere in the other; becauſe there are other Places may be found for *them*, as I ſhall obſerve preſently. And indeed I placed *them* there,

there, rather with a View of their being removed, as Occasion might require, or as Sickness and Mortality in other Parts may make necessary for a present Supply of more Peaches.

Let us next consider the Apricot; which, whatsoever Monsieur *Quinteney* is pleased to say of it, as if 'twas fit only for Compotes, is really a good and much valued Fruit in *England*. I mean not the early Masculine Apricot, which is indeed worth nothing; but the large Turkey Apricot, which hath a noble Flavour, and is a constant Bearer. If therefore in the one Plot I have allowed only *three*, because a *South-west* Wall is rather too good, and in the other *five*, as a sufficient Supply, it is not because I despise it, but because I know *five* such Trees will ordinarily bear an incredible Quantity of Fruit, if they be managed as they ought. I have now two Apricot Trees, that have been several Years in their Prosperity and at full Growth, and I cannot say that in all that Time I can remember a Year, when they afforded me less than a Bushel of Fruit. And alas! my Soil and Situation will not give me leave to boast of any Security from Blasts, Canker, &c.

It will not sure be thought too great a Complement, that I allow Room on the best Walls for four or five of the best *French* Pears, which are so little inferior to any of the Stone Fruit, and yet come to their Maturity when the other are gone, which is no inconsiderable Recommendation. And on the other side, it ought not to be wondered at by those that admire them, that I allow so few; because with good Management each Pear-Tree will ordinarily bear no less than half a Bushel, as I have had long Experience; indeed not seldom as much more. However there is so ample a

Provision

Proviſion made of excellent Sorts among the Dwarfs, that there can never be found any Deficiency of good Pears in this Plan.

I have allowed Room for ſome of the beſt Plums on the *Eaſt*, *Weſt*, and *South-Weſt* Walls; becauſe I think they very much deſerve it, eſpecially the two Perdrigans and the Roch-Corbon. They will by no means do well *without* a pretty good Wall; but *with* that Aſſiſtance they are incomparable Fruits, and have a noble vinous Flavour, ſuch as muſt be agreeable to every one that has not an Averſion to a Plum, or will not always think it a *peaſant* Fruit.

Upon the whole, here is a ſquare Plat of Ground ſet out and walled round, ſuppoſed to be only 40 Yards ſquare, which at 4 Yards diſtance for every Tree, will afford 40 Trees, every ſeveral ſort ſuitable to its ſeveral Aſpect to the Sun; which, with good and skilful Management, may reaſonably be ſuppoſed to afford every Year a ſufficient Variety, as well as Quantity of the beſt Fruits; If we take in what I am going next to ſpeak to, *viz*, that great additional Help of the Dwarfs in the middle.

Which Dwarfs I make to conſiſt only of Three ſorts of Fruit, as moſt proper for our preſent Scheme, *viz*, Pears, Plums and Cherries, leaving even the beſt Apples to their more proper Place in the Orchard: Except the Eight Non-Parelles on Paradiſe Stocks, which may be obſerved to be ſet in the intermediate Spaces on the Four ſides, where, never growing above a Foot high, they will have room enough.

Now one ſide of the Square may be obſerved to contain no leſs than 28 Dwarf Pears: allowing

every

every Tree four Yards ſquare for its horizontal Branches to ſpread in, which is very ſufficient, ſuppoſing the Place not to be crouded with any thing elſe; no not with Flowers or Legumes, which is what I always take for granted. If then every ſingle Tree doth but in any ſort anſwer the Proportion of Fruit, which my own Experience hath furniſhed me withal, here will be greater Plenty and Abundance than can well be diſpoſed of. I have only one Dwarf of the Swan's Egg Pear, which is indeed (as I have termed it) a *Nulli ſecundum*, and if my Memory fail not, hath for theſe laſt five or ſix Years afforded me no leſs than two Buſhels; Nay, this laſt Year I had betwixt three and four Buſhels from it, moſt of them excellently good. However, becauſe this may ſeem ſomething extravagant, and more than can ordinarily be expected, let us ſuppoſe every Dwarf-Pear to afford only half a Buſhel a-piece, one with another, the Product of Twenty eight Trees, on one ſide of the Square only, will be Fourteen Buſhels of the beſt Summer and Autumn Pears of five or ſix Sorts.

The other Side of the Square is filled with the beſt Plums and Cherries, at leaſt the beſt of thoſe Sorts, that will do without the Help of a Wall, 28 alſo in Number; which, with tolerable Management, and a reaſonable Allowance for Quantity, will make an abundant Proviſion for the Table, through the whole Seaſon of Cherries and Plums. Only it maynot be amiſs here to obſerve, that it will be very proper to ſuffer the one half of the Dwarf-Trees to grow higher than ordinary: That is to ſay, all theſe ſeveral Trees in both Squares, that are planted neareſt to the *North*, *North-Eaſt*, ahd

North-

North-West Walls, may be ſuffered to be what we call *Half Dwarfs*, where their taller Heads will not do any Harm by overſhadowing any of the beſt Walls, And indeed the Half Dwarfs, where they can be ſuffered, are the moſt conſtant Bearers with the leaſt Trouble and greateſt Plenty; the other requiring a very vigilant Eye to correct Luxuriancy, and ſeaſonably to remove all perpendicular and uſeleſs Branches. This indeed muſt be done in the Half Dwarfs, as well as the other; but the Confuſion that a vigorons Tree makes is much greater in the low Dwarfs, and ſo the proper Remedies muſt be oftener apply'd. Beſides, I have obſerved, that none of the Sorts of Plums and Cherries eſpecially, will well endure *violent Corrections*: *Unmerciful* Loppings is a Sort of *Peſecution* to them, and they anſwer the End of their Nature much better under a *moderate* and *gentle* Government.

By this Time I ſuppoſe it will be thought by many, that I have forgot Two or Three conſiderable Articles in a Fruit-Garden, and have made no Proviſions for them in the preſent Scheme, *viz.* Vines, French Winter-Pears, and Figs: But indeed *theſe* I have with Deſign left out of the Plan, and reſerved them for more proper and convenient Places. All the Southern Aſpects of the Dwelling-Houſe, Stables, and other Out-Houſes, which every Gentleman's Seat is plentifully furniſhed with will do ſingularly well for theſe. For all the ſeveral Sorts of Bon Crêtiens, the Summer, Autumn and Winter, *&c.* require more thau ordinary Height aud Room to ſpread in; and here they may be allowed *Elbow-room* and *Height* enough to anſwer the End of bearing *much* Fruit; tho' if

the Soil be any thing inclinable to too much wet or a cold Clay, it must not be expected to be good Fruit: And therefore in such Cases, it is advisable, rather to be contented with such as will do well enough; as the Winter-Thorne, Amadot, Virgulee, (or La Chassere, which are excellent in their Kind. However, I ought to say here that if the Soil be warm and suitable to the several Bon Crêtiens; yet they produce much better and larger Fruit on a Quience than on a Free Stock; which perhaps is peculiar to this Sort of Pear; tho' it must not be expected such Trees should be very long lived.

The several Sorts of Grapes are also reserved and allotted for the Southern Aspects of Buildings near the House, where they may have Room to spread themselves, and will soon cover such Walls with Plenty of Fruit. Not that the Vine doth really need (as is commonly thought) any such great Height to make it produc Fruit; but that it will *sooner* and *better* cover such *tall* Walls as are a natural Security of the Fruit against ordinary Endeavours to taste it.

As for Figs in the last Place, which I have reserved for Walls that lie open to Comers and Goers, they will do singularly well there. For tho' both the blue and the white Sort are the richest and noblest Fruit a Garden affords, yet it seldome strikes the Fancy or suits the Palate of the meaner Sort; insomuch that there is little Danger of being deprived of this Delicacy by any rapacious Hand. And indeed it is for this Reason also, that I advise the planting the best of Winter-Pears in such exposed Places; because whilst they are growing on the Tree, they are in no great Danger of being tasted a second Time.

Thus

Thus I conceive we have effectually found what we were in Queſt of, *Multum in Parvo*; which I always ſuppoſe to be a very acceptable Thing; to ſuch wiſe Men eſpecially, as have learn'd the *divine Art* of dedicating the Overplus of their Time and Eſtate to God.

What ſome modern Authors mean by putting Gentlemen upon Grand Deſigns, and vilifying all others as *crimping*, *diminitive*, and *wretched Perſormances*, I could never underſtand. I believe it will be found that nothing hath more tended to the Ruin of brave Eſtates, than theſe *prolated Gardens*, as they call them, and a fond Affectation of imitating a vain People in what they call *La Grand Manier*. Our Engliſh Gentlemen have always been famous for more ſubſtantial Realities, without ſeparating the *Jucundum* from the *Utile*; and can reliſh a profitable Deſign, tho' it doth not reſemble *Ingentia Rura*. If Gardens are only to be valued for their largeneſs, there will be no End of multiplying the Number of Acres, till Gentlemen have got to the End of their Eſtates: So that I cannot but think, there muſt be great Defect in the Contrivance, if a very beautiful and magnificent Garden of Pleaſure and Profit too, be not formed out of a very few Acres. I am pleaſed however to think *Horace*'s Wiſh agrees ſo well with my preſent Scheme,

Hoc erat in Votis; Modus agri non ita magnus.
Hortus ubi,——

and that I have reduced the Fruit-Garden to leſs than half an Acre, ſufficient to furniſh any Gentleman's Table with all the Variety of good Fruits in their ſeveral Seaſons. This ought to be the more

acceptable, in that it is proposed as a Remedy to cure Barrenness proceeding from too great a Compass of Ground and too many Trees; which, as far as my Observation has gone, do generally serve to enhance the Charge and lessen the Profit. For what an entertaining and comfortable Visit may we suppose a Gentleman every Day to make to this little Garden; where he will find himself encompassed and surrounded with Plenty, and may behold a charming Variety of what is most pleasing to the Eye and Taste, at once the Reward of his Care and Diligence, and the Fruit even of his Recreation.

I suppose I need not add any Thing farther on this Head, the Two different Plans I have hereto annex'd, the one exactly according to, the other crossing the Quarters, will make every Thing easy and plain *. And the Moral of the whole I should think is not less plain. For if our innocent *Recreations* are thus surprizingly rewarded with Pleasure and Profit, how can an ingenuous Mind forbear thankfully to adore the God of Nature for temporal Blessings, and more chearfully to expect a greater Reward in the next World for such *Virtues*, as lay a Foundation for it in this?

* *Fig.* 1. *Fig.* 2.

A Third General CAUSE *of* BARRENNESS.

IS an unskilful Ordering and bad Management of Fruit-Trees, both in their *Planting* and *Pruning*. The Caſe is much the ſame here in the *vegetable* as it is in the *moral* World, Every one knows how fatally Youth is commonly enſlaved to bad Courſes, for want of ſetting out right at firſt, and being well inſtructed and ſeaſoned with virtuous Principles. Corrupt Nature will ſoon overbear the *weak* and *tender* Diſpoſitions to Goodneſs in Youth, without an early Care and wiſe Government: By the Help whereof head-ſtrong Paſſions are ſubdued, and all the wild Sallies of a vicious Inclination are kept within due Bounds? And ſo by the Bleſſing of God, the Man thereby becomes fruitful in good Works, and uſeful in his Generation.

So alſo here in the *vegetable* World; it is of great Conſequence to the Goodneſs and Proſperity of a Fruit-Tree, that it be rightly managed and kept in due Order from the Beginning; that the extravagant Growth of Nature, and its Tendency to Wood and *fruitleſs* Branches, may be kept under and ſubdu'd in time, before it become too head-ſtrong and ungovernable: by which means the *weak* and *tender* Shoots will begin more and more to diſcover themſelves, as the joyful Appearances of Fruit and Plenty. An Error and Miſtake in the Beginning proves often fatal, and is not ſo eaſily rectified afterward, without great and too dangerous Violences. But let us examine this Matter a little more

more particularly, that we may the better know how to apply the proper Remedy.

As one Cause of Barrenness, I have here taken Notice of a common Defect in the Management of Fruit-Trees; both in *planting* and *pruning* them. To speak a little methodically,

First, A wrong Method of *planting* is a very untoward Beginning, and proves oftentimes of very ill Consequence, with respect to future Hopes of any great Plenty. And yet there are these Three several Ways of *planting* too often practised, which seem to me to be contrary to the Rules of Art, as well as Nature; *viz.* Planting Trees too deep; too near one another; and against a wrong Exposition.

(1.) There is no one Mistake in the Art of Gardening, that I have observed to be more general and common than this, of planting Fruit-Trees too deep in the Ground; and yet nothing is more fatal to them, especially in some Grounds too much subject to Moisture in the Winter, and nothing tends more to keep Trees in a sickly, unthriving Condition, and consequently from bearing either *much* or *good* Fruit. Indeed where the Soil is naturally exceeding dry, and lies on a Declivity that will quickly carry off the Winter-Wets, the Fault may be less dangerous: But except there be a sufficient Depth of natural good Earth above the Rock or Gravel, the Evil complained of will there quickly discover itself, after Four or Five Years, when the Roots of the Trees will be starved by a hungry Gravel, Sand, Chalk, or Rock, or whatsoever the Bottom be, that lies too near the Surface. On all Accounts therefore it is much the better and safer way to plant *high*, provided

Care

Care be but taken the firſt and ſecond Year, to keep the Roots tolerably cool and moiſt; for which I have already given Directions in my former Treatiſe *. To which and what I have there ſaid about Planting, I ſhall only add here on this Head: That becauſe I am well aſſured, nothing is more fatal to Fruit-Trees, the tenderer Sort eſpecially, than planting them too deep, and thereby ſubjecting their Roots to too much Wet in the Winter; (for Summer-Wets never hurt them) I cannot but adviſe to let the Top Surface of the Borders under the Walls be at leaſt Seven or Eight Inches above the common Level; ſetting that Part of the Tree, where it begins to root and divide its ſpurs, exactly even with the upper Surface of the Border. Only ſtill it muſt be obſerved (as I have elſewhere directed †) that there muſt be added another Semicircle of good Earth or rich Sand of about Three or Four Inches deep round the Tree, paved with ſmall Pebbles, to keep it cool and moiſt for the Two firſt Years. If this Method is carefully put in Practice, there will be no need of mending the Borders above One Foot deep; no matter how wide, to encourage the Roots to ſpread horizontally. I cannot but here repeat, and earneſtly recommend the making uſe of the beſt *untry'd Earth* that can be got, for filling up the Trenches, both for Wall-Trees and Dwarfs; having had long Experience that no Sort of Compoſition made with Coſt and Art, can exceed the Riches of this Earth, or will make more

* *Pag.* 14, *Edit.* 1.
† Pag. 15. former Treatiſe.

more vigorous, healthful and lasting Trees *. But,

(2.) There is another common Mistake committed in planting, which is attended with very unhappy Consequences, and that is planting the Trees too near one another; the Mischief whereof is very manifest these two ways: First, after 5 or 6 Years, they begin to crowd and shoulder one another, and for want of Room the Gardener is tempted to run the Branches perpendicularly, which is the high Road to Ruin; at least it is the way to increase the Wood, and lessen the Quantity of Fruit; for the bottom and middle Part of the Tree will quickly be found to be altogether barren; and in the Peach and Appricot the Evil will be absolutely irrecoverable; *they* not putting out young Shoots, when the great Wood is cut out, by Reason of the Thickness of their Bark. Whereas when Trees are kept thin of Wood in the Middle, and have Room to spread their horizontal Branches, every Part of a Tree may with Care be kept in a bearing State. But besides, there is another Mischief attends this Mistake of planting too near; which is, that the Roots of the Trees will quickly meet, and so rob one another of the proper Nourishment they should receive, and when once the Borders begin to be worn out, and lose their Richness and Fertility, *that* is never to be recovered but by taking away the Tree, putting in new Earth, and planting another. Whereas when Trees are planted at their due Distance, their Roots do still receive new Succour and fresh Nourishment, as they advance, and as the Head of the Tree

* See more of this Pag. 5. Part 1.

Tree increaſeth to require it; whereby an agreeable Health and Vigour is retain'd a long Time, even for 20 or 30 Years. Now, though Pears may ordinarily require ſomething more, eſpecially if they be upon free Stocks; yet I have aſſigned only Four Yards, as a mean Diſtance proper only for Fruit-Trees, either for the Wall or Dwarfs. *More* Room would generally leave too great Vacancies in the Wall, and *leſs* would ſubject the Trees to the Evil here complained of. In my former * Treatiſe I have indeed recommended the planting tall Trees in the intermediate Spaces: But this I ſuppoſe to be done with great Diſcretion, chiefly betwixt Pears whoſe Strength and Vigour are not ſo eaſily impaired; or if they are placed between other Trees, they are ſuppoſed to ſtand only 2 or 3 Years at moſt, and then to be removed into the Orchard for Standards.

For the very ſame Reaſon that I diſſallow of Trees ſtanding too near together, that the Riches of the Borders be not wore out, I alſo by no means approve of a bad Practice in ſome Gardens, of letting Roſemary, Lavender, Stock-Gilliflowers and Iris's, *&c.* grow on the Borders, where the choiceſt Fruit-Trees are, which yet in a little Time will not fail to impoveriſh the Ground, and give the Trees, if they be young, occaſion to *complain* by making only weak and languiſhing Shoots, But then again,

Laſtly, There is yet another great Miſtake, that I find very frequently committed in the planting a Fruit-Garden; and that is, putting Trees on a wrong Expoſition, which muſt be owing to Ignorance

* Pag. 16.

rance, either of the Nature and Quality of the Tree, or of the true Disposition of the Ground and its exact bearing to the Sun. The Ignorance of either one or t'other, or both, must needs be of bad Consequence, and prove a great Disappointment to the Planter; who it may be for want of being rightly informed, has put a Vine, an Apricot, or a Peach on a *North-East* or a *North-West* Wall, and it may be has been so unfortunate, as to put a meally Summer Pear, or an indifferent Plum against a *South-East* or a *South-West* Wall. This is no airy Supposition; for I have very often my self found it so, and complained of it with some Uneasiness. It is a very common Practice with some to thrust many of the best Sorts of French Pears, the Buree, the Verte-longue, the Virgulee into any Corner of a *North-East* or *North-West* Wall; or if the Wall faces any Point of the *South*, it shall be shaded by some neighbouring Wall or Building for 3 or 4 Hours; insomuch that if the Trees do bear any Fruit, it will prove small, wat'ry and insipid; the general Consequence of which is, that the Sort of Fruit shall be exclaimed against and condemned, without having had proper Justice done to it.

Indeed it is not seldom that Apricots and Peaches and Vines are *supposed* to be set against *East* and *West* Walls; when upon Examination the Exposition is found to bear several Degrees towards the *North*: In which Case the Disappointment must be very great, when after several Years waiting, the Trees are found to bear little else but Leaves, or small insipid Fruit?. For indeed no other can well be expected from such an Exposition, as declines any Thing to the *North*; except in a more than ordinary hot Summer and Soil, or with the Help and Advantage

of

of ſome artificial Heat, as the Back of a Kitchen Chimney, or the like.

To prevent therefore the Inconvenience of this Miſtake, it is very adviſeable when a Fruit-Garden is once pitch'd upon, and the Walls built, to know by an exact Meredian Line, the proper Bearings of each Wall, before they are planted; and their true Declinations. Now tho' there are ſeveral eaſy ways of doing this, yet becauſe every Gentleman may not happen to be acquainted with them, and to make this Treatiſe as uſeful to the Publick as I can, I have inſerted the following ſhort and eaſy Method of finding an exact Meredian Line.

Take a Stone of about 18 or 20 Inches ſquare made exactly plain and ſmooth. Bore a Hole near one of the Corners, wherein fix an Iron Pin about 14 Inches long *clear*, drawn to a Point on the Top; No Matter whether it be exactly perpendicular. Place this Stone in ſome open Part of the Garden exactly horizontal by a Level, that Corner where the Pin ſtands and its Oppoſite bearing as near as you can gueſs, *North* and *South*, the Pin on the *South*. This done, about 9 a Clock in a clear Day, draw a Semicircle from the extreme Point of the Shadow of the Pin, which may be done with a ſteady Hand by the Help of a narrow thin Piece of Fir, made ſharp at one End with the Point of a Nail, fixing the flat Side on the Top of the Pin; ſo that the Point of the Nail may juſt reach the extreme Part of the Shadow, where you are to make a Point or Mark. Then at about 3 a Clock the ſame Day, obſerve exactly when the Shadow of the Pin comes again to the Semicircle; from which Moment allow one Minute for the Sun's annual Motion, and then make a Mark exactly at the Extremity of the

Shadow

Shadow; which will be ſomething beyond the Semicircle. Draw a Line ſtrait from one Point to the other, and then *half* it exactly; and from this middle Point raiſe a Perpendicular which will be the exact Meridian Line.

N. B. It is convenient to make 3 or 4 of theſe Semicircles both before and after 9 a Clock, for fear the Sun prove in a Cloud, when the Obſervation is to be made in the Afternoon; and then if one miſs, the other may hit. Only great Care muſt be taken that the correſponding Points in the *ſame* Circle be made uſe of, that there be no Miſtake. It is alſo proper to do this in the Summer Quarter, when the Pen-Umbra of the Shadow's Point is leaſt, and the exact Point may be beſt taken and more nicely obſerved.

N. B. This exact Miridian may with eaſe be transferred to any other more convenient Place about the Houſe; as the upright Stanchel of a Window or any perpendicular Tranſome or Jaume, ſhadowing on the Floor or Window Board; this Meridian being of ſingular Uſe throughout the whole Year for regulating Clocks and Dials, and taking Declinations. Which laſt Operation being to our preſent Purpoſe, may be very readily performed, by only applying the Side of the Quadrant to the Wall, and then holding up a Plum-Line exactly at 12; whoſe Shadow may paſs thro' the Centre, and will at the ſame Time give the Degrees of Declination on the Rim of the Quadrant; only a Weſtern Declination muſt be counted *forwards* from Left-Hand to Right, and an Eaſtern *backwords* from Right-Hand to Left, on the Edge of the Quadrant, as the ingenious Inquirer will ſoon obſerve.

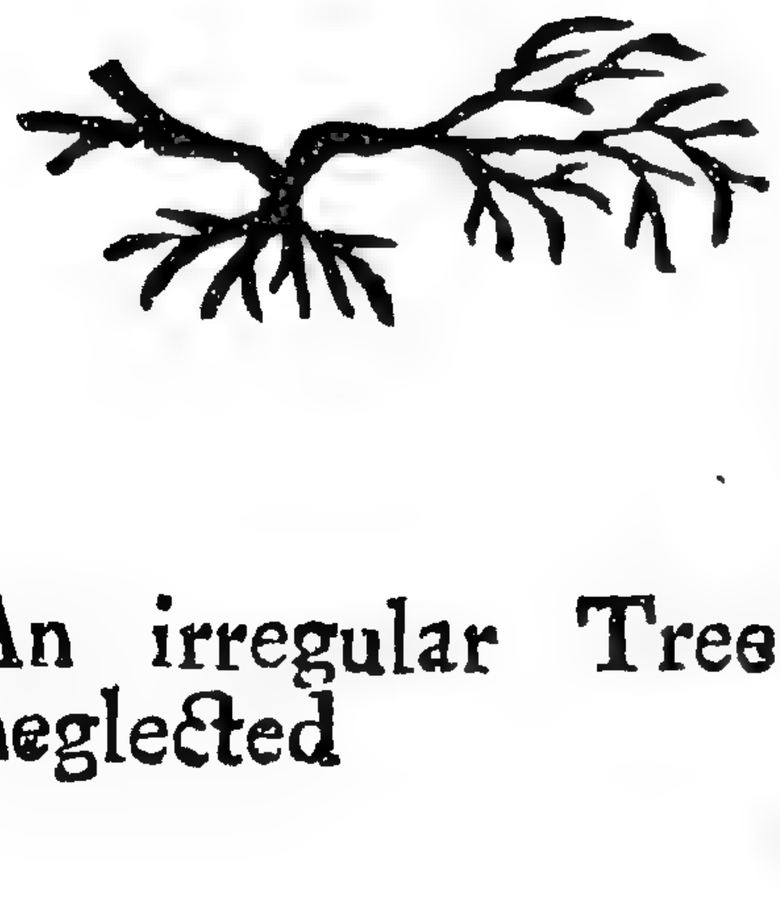
As to the Miſtake of planting Trees on a wrong xpoſition for want of knowing the proper Aſpect every Tree requires; to remedy this I was once thinking to inſert a Catalogue of all the moſt known Fruits. with their ſuitable Aſpects over againſt them, as alſo which are propereſt for Walls, and which for Dwarfs; but that I conſider'd I have already effectually done this in the very Plan I have given above *; where at one View may be ſeen what I have judg'd proper for that very Purpoſe with Reſpect to all the beſt and moſt approv'd Sorts of Fruit; and the kind Reader will, I know, excuſe me from all needleſs Repetitions.

Secondly, I come now according to my Method, to take Notice of ſome common Miſtakes in the *pruning* of Fruit-Trees, which I ſuppoſe to be a great Cauſe of their Barrenneſs. But before I enter upon this difficult Point, I muſt be forced to ſay ſomething to rectify a common Miſtake, even in one of the firſt Things a Gardener takes in Hand, and that is his *Pruning Knife*; the true Make and Shape whereof I venture to affirm, with due Reſpect to the Judgment of preceeding Ages, hath hitherto been quite miſtaken. For the Blade of a common Pruning Knife is known to be ſhaped and faſhioned like a Hawk's Bill; and yet according to the Obſervations I have made of the real Uſe of a Pruning Knife, this is quite wrong and unnatural. If indeed the Branches of a Fruit-Tree againſt a Wall grew generally *downwards*, this Kind of Shape might be of ſome Uſe for the cutting off ſome of the ſtronger Branches; but as they generally grow *upwards* and *ſide-*

*. Fig. 1. and 2.

ſide-ways, ſuch a ſhaped Knife becomes almoſt of Uſe; at leaſt it muſt be uſed very aukwardly,

Beſides, in all Caſes that require much Strengt a Mallet and Chiſel are without Compariſon be ſafeſt, and moſt exact; and in other Caſes alſo t ſtubborn for the Knife alone, a Stroke of the Ha mer on the Back of my Knife anſwers the Purpo to great Nicety and Exactneſs. But the moſt gen ral Uſe of a Knife, is to ſhorten all the leſſer Bra ches that grow upwards and ſideways; to perfor which, a Hawk's Bill is the moſt aukward Shape i the World: And therefore the Shape of a Knif which I always uſe and recommend to my Friend is juſt the Reverſe of *that*, a little ſloping off, an round towards the Point: And how much more na tural and uſeful ſuch a ſhaped Knife is like to prov to one that uſes it in upright and horizontal Bran ches, and *that* generally above Head, I leave to th Judgment of the ingenious Practitioner; only giving him here the Figure of both, the better to direct his Choice.



An irregular Tree neglected



The ſame irregular Tree reduced in Time.

But

But it may not be amiſs to add here, that ſuch Knife ought to be made with a good thick ack, the better to bear the Stroke of a Hammer ɔon accaſion, and if poſſible of Razor-Mettle ell tempered, that it may always have a good dge, and be uſed as a Penknife, as well as for runing.

Having now ſettled this Point, the firſt Miſtake Pruning that I obſerve is, letting a Tree from ıe beginning run out into vigorous Wood and ranches all on one ſide; and becauſe the Shoots n the other ſide are weak and unthriving by rea- on of Blaſt or Canker, the other are wont to be ontinued, and the Trees ſuffered to grow in a ery irregular and unhandſome Faſhion; whereby t comes to paſs, that a great Part of the Wall is ınfurniſhed with Branches, and by a continued Neglect, the proper Beauty and deſired Fruitful- neſs is not capable of being reſtored, but by plant- ing a new Tree. Whereas had this Evil been ob- ſerved and remedied in time, *all* might eaſily have been reduced into the greateſt Beauty and Order imaginable; as may be ſeen by the two foregoing Figures. For when Branches are young and ten- der, they are *ductile* and *governable*, and you may with Care *lead* them backwards and forwards, as Occaſion and Neceſſity require. Neither is this Method any the leaſt Blemiſh or Hindrance to the future Proſperity and Fruitfulneſs of the Tree, but rather a Furtherance by reaſon of that early Check it received in its moſt vigorous Part, which (as I have elſewhere obſerved) throws it ſooner into a bearing State. And it is alſo to be obſer- ved, that ſuch a Check does not in the leaſt hin- der its Proſperity: For there is this difference be-

tween

tween a weak sickly Branch, and a vigorous Branch made weaker, rectified and subdued by Art: The one is in a dangerous dying Condition, for want of proper Wood and Pores to convey the Sap and Juices in their continued Circulation * ; the other has its Ducts and Passages only a little straitened, by being horizontally bent and bow'd down ; lest it spend its Vigour all at once, and die the sooner afterwards. In short, the one is dying and generally past Recovery; the other would live too fast, if not kept within due Bounds and wholsome Rules, which give true Life to the *vegetable*, as well as the *moral* World. This Reduction of a young Tree, which I am speaking of, chiefly respects the Peach and Apricot; no other Tree that I know of being so subject to decay by Blast and Canker on one side and not on the other. And now I have mentioned *them*, before

* What I have said in my former Treatise (Pag. 36.) amounts to a plain Demonstration of the Circulation of the Sap in the Jessamine, tinged all over by Inoculation. For tho' (as hath been objected) that Operation hath not the same Effect in the painted Philerea and Holley; and tho' we could not account for the Reason of such a difference Phænomenon ; yet still the Proof is undeniable in the Jessamine. But indeed the true Reason of that Difference seems to be plainly this ; the Bark and Leaves of those Ever-Greens are so tough, hard and stubborn, that they do not easily suffer any adventitious Juice to alter their natural Colour ; and we find some sorts of them will hardly retain the Stripe, made even from the Shoots of the Bud itself. Whereas the Jessamine hath a marvellous thin Bark and silky Leaves, which easily receive an Impression and Change of Colour from a ting'd or poison'd Sap, continually circulating through their Veins or Pores.

before I leave them, I ſhall take notice of a Defect in Pruning, more peculiarly prejudicial to theſe, than to any other ſorts of Fruit-Trees; and that is, leaving the Woodbranches of the aforegoing Year too long. This, tho' it is a general Fault in Pruning; yet it is of worſe Conſequence in the Peach and Apricot, their Bark, after two or three Years, growing ſo thick and tough, that they will not put forth new and tender Shoots any more after they are ſhortened, as the Pear and Plumb will do; which is the true Reaſon of that Barrenneſs ſo frequently viſible in Peach-Trees toward the bottom, having been ſuffer'd to grow too faſt, and run into long Wood-branches in their Youth. I am ſenſible ſeveral Perſons are very regardleſs of this; eſpecially ſuch as are bleſſed with a more than ordinary warm good Soil; and are apt to triumph with their Plenty, without minding the ſtrict Rules of Art, or, it may be, attribute their Succeſs to their own particular Skill. Whereas Nature itſelf, with little Art in ſuch Soils, will do Wonders for a time: But then they muſt remember, that their Trees will be ſhorter-liv'd: And accordingly in ſuch Caſes, as I have obſerved, great Barrenneſs in time will be diſcovered in the middle and bottom of the Walls, as a Fore-runner of Death. It is a certain Truth, *good pruning* not only procures *Fruit*, but makes *laſting Trees*,

Having given this Caution, I need not add any thing farther concerning Rules for the Government of the Peach and Apricot, if what I have already ſaid in my former Treatiſe, be but well minded and conſidered. Only before I leave this Head, I have ſomething particular to ſay with reſpect to the Government of the Pear and Plum,

both thoſe againſt the Wall and Dwarfs, which will in a great meaſure cure the Defect of bad pruning in old Trees, and prevent the Danger of Barrenneſs in young ones, ariſing from too great a Degree of Vigour, which theſe Trees are moſt ſubject to.

For *Firſt*; As to the Caſe of a young Tree, that diſcovers an extraordinary Vigour after planting, nothing ſo effectually brings it into a bearing State, as ſome way or other checking the Sap in its free Circulation, either in the Root or Branches. Now tho' I have ſometimes practiſed *this* with Succeſs on the Roots, by ſhortning ſeveral of them with a ſharp Spade; yet becauſe this working *under Ground* is a blind and uncertain Remedy, I rather prefer practiſing upon the Branches with my Knife; where I can ſee what I do, and make a Wound as little and as big as I pleaſe. In the Caſe therefore here ſuppoſed, I cut the moſt vigorous Shoots two parts in three through, with a pretty large Notch, leſt it heal over again too ſoon, and recover an undeſirable Vigour. Beſide the Advantage of bringing a Tree ſooner to a bearing State, there is this farther Benefit to be had by this Method, *viz.* you may lay all *untoward* Branches juſt as you pleaſe, humouring the Notch ſo, that the Branch may fall handſomely into the Place deſired; ſo likewiſe all perpendicular Branches, and all ſuch as grow forward, may, if occaſion be, eaſily be reduced horizontally, and nailed cloſe to the Wall in a void Place where they are wanted; and if it is a Dwarf, this *Inciſion* is of ſingular uſe to rectify *aſpiring* Nature, to keep down all perpendicular Branches, and to give the Tree its exact open

Air,

Air, and that proper Beauty and Form, which a Dwarf requires. There need not be much fear of making the Wound too big; for provided there be but any little reasonable Quantity of the outward Bark or Rind left uncut, a Branch of a *Pear especially* cannot ordinarily be killed, but will soon, *too soon* recover its Vigour. Only with respect to Dwarfs it must be observed, that where the Incision is made pretty large, and the Branch much weakened, it is very convenient to strengthen it for a time by a Prop, against the Violence of Winds; till the Wound is a little healed over, and it recover a sufficient Strength to support itself; which yet it will be observed to do in one Summer.

Secondly, When the Pear and Plum have been suffered several Years to run into Wood and many thick perpendicular Branches, (the Effect of bad Pruning and the certain Cause of Barrenness) after some of the biggest Wood is entirely cut out, the best Remedy that I could ever yet find, is to make these *Incisions* with a Mallet and Chisel, on some of the largest and most upright Branches that are left; sometimes *two* or *more* even in the same Branch. This I have often experienced to produce Plenty, sometimes the first Year, but most commonly the second after the Operation. But indeed it is not always a Sign of bad Pruning, if vigorous Trees need such Checks as these; for the Pear on a free Stock is hardly to be kept within Bounds, or pruned with any constant Success *without* them: But *with* these Helps and a due Regard to the Rules of Pruning, which I have already laid down (Part 1.) there is little Danger of wanting a Crop almost every Year;

especially if what I have observed to be much wanted in these vigorous Trees, be but minded and practised: *viz.* never to let the Branches stand *too forward* with knotty Wood; but either to cut them quite off within half an Inch of the great Wood-branches, or else, as Occasion serves, to *plash* them by *Incision* as before, or rather *break* them with the Hand half through; by which means they become Fruit bearing Wood, and you fill the Vacancies of the Wall, bending them, as you please, from the Place where they were cut or broken.

I have frequently practised this with Success on the young Wood-branches, even of the Peach and Apricot, when they have happened to form themselves direct forward, or toward such Places where they were least wanted. And these Branches thus wounded have continued several Years bearing Fruit. But yet because they will often die with Gum, this must not be made a common Practice of, and ought only to be used in those Cases, where their dying is only the Loss of such Shoots, as would otherwise have been of no use. But the Pear and Plum are of so strong and hardy a Nature, that you cannot ordinarily hurt them by *Incision* or any *moderate* breaking of their Branches. I know not whether I need to add, that the Vine and Fig will by no means endure such course Treatment, the ingenious Observer well considering, that *Discipline* is always to be suited and proportioned to the *Strength* or *Weakness* of Nature.

N. B. Although this Operation of managing young vigorous Branches by *Breaking*, and the larger ones by *Plashing* or *Incision*, be to be practised any time of the Year; yet I prefer doing it in the Spring,

Spring, especially making the larger Wounds, on the Account of the Winter Wets and Frosts, which will then be over; tho' any Danger from thence may easily be prevented, by only applying a little Cow-dung to the Wound. As to the *general* Practice, a watchful Eye will see Cause to use this Method, not only in the Winter, but all the Summer Season too, as Occasion and Necessity require.

N. B. A dry Summer naturally disposeth almost all Trees to bear well the following Year; therefore in a wet Summer, Fruit-Trees require more than ordinary Care and Art, to hinder their running into Wood and fruitless luxuriant Branches.

N. B. The Art of checking the Sap both in Root and Branches, may be very successfully apply'd to such flat Dwarfs, as are intended to be only about two Feet high, humouring the Borders, whether they be Apples, Plums or Pears: tho' it is moit proper the Apples should be on Paradise-Stocks, and the Pears on Quinces, the more naturally to answer the Purpose of having less Wood, and a sufficient Quantity of Fruit. For indeed the true Art and Mystery of making a Tree bear Fruit, is only to Proportion the *Degree* of Sap and Vigour to the *Quantity* of Wood or Branches. When that Matter is once rightly adjusted, you have every thing that Beauty and Prosperity can give. So when a Tree wants Sap and Vigour, it languishes and dies; and when it has too much, it runs into Wood and fruitless Branches. How well this Proportion may be kept with respect to Fruit-Trees set in Pots, I am not as yet able to say; because I am but *now* making the Experiment of a Peach, an Apricot, a Fig, and a Cherry so ordered. There *can* be no Danger of too much Vigour; all

the Difficulty will be to give them *Moisture* and *Nourishment* enough in so small a Compass of Earth, and to preserve their Blossoms from Blasts and Frosts; which yet I hope to overcome, by *Housing* them at Nights in the Spring, and setting them pretty deep in the Ground in the Summer, on a good Exposition, allowing them plentiful Wat'rings.

But the Success of this being uncertain, I shall say no more of it; but shall leave this, and what else I have said on this Head to the Judgment of all ingenious Improvers of Art and Nature; whose modest Enquiries ought the rather to be encouraged by all wise and good Men; because the more we search, the more we still discover of the divine Bounty and Goodness to Mankind.

The Fourth and last General CAUSE *of* BARRENNESS.

THere remains in the last Place to say something of a very different Cause of Unfruitfulness from any that have hitherto been taken notice of; and that is *cold unkind Seasons*; but especially *Frosts* and *Blasts* in the Spring. This will readily be granted to be, not the *Fault* but the *Misfortune* of the Gardener; and such a *Misfortune* too, as they who live on the Continent are not so subject to, and therefore in a great Measure peculiar to us who live in an Island.

However, to remove all Cause of Complaint, and to keep us from repining, Providence has been very liberal to us in some peculiar *Blessings* other ways. We are not subject to the Excesses either of Cold

or

or Heat; and Nature assisted by Art produces for us the choicest Fruits: We abound in that which is properly the *Staff* of Life; and, which crowns all other Blessings, we live under such an happy Government, that what we *have* we *enjoy*.

These Circumstances so desireable to us, and so much the Envy of our Neighbours, are by no means to be forgot by us, when we remember the Infelicity of some unkind Seasons. And yet because these Frosts and sudden Blasts are so much the real Grief of the ingenious Gardener, when he sometimes sees all the Fruit of his Labour, and his Expectations brought to nothing even in one Night, it may be well worth the while to enquire, whether a better Remedy than what hath hitherto been thought on or practised, may not be found out to cure this great Evil and dangerous Enemy.

The general Method hitherto used by careful Gardeners to preserve Blossoms and tender Fruit from the Blast in the Spring, is to hang up Bass-mats or other warm Coverings, which are rolled up in the Day-time, and let down in the Evenings, when most danger is suspected. This Practice hath sometimes succeeded very well, and preserved some of the choicest Fruit: But there are these four Inconveniencies attend it. First, it is very chargeable to provide so many large distinct Mats, as every full grown Tree requires. Secondly, it mightily increaseth the Gardener's Care and Trouble to manage and adjust so many Mats every Morning and Evening; even in the most busy Time of all the Year. Thirdly, Frosts do oftentimes come so unexpectedly, and even so late in the Year as the Middle of *May*, that if the Mats happen not to be let down or continued, all former Care is lost,

and

and most of the Fruit destroyed even in one Night. And yet, Fourthly, when the Mats *are* ordered and disposed as they should be, if high and black Winds arise, I have often found, that the Mats have done more Harm than Good, by their continual beating off the Blossoms and tender Shoots.

These Inconveniencies have put me often upon considering, whether a better and more effectual Remedy might not be found to prevent the Mischief of these destroying Frosts; for which Purpose, if the following Discoveries and Directions prove of any real Service to the general and publick Good, I freely own the first Hints were made and given me by a very ingenious Gentleman and worthy Friend, himself a great Lover and Improver of vegetable Nature.

Now these Hints proceeded, I think, upon a right Supposition, that most of our Frosts and Blasts both in Spring and Autumn, *fall perpendicularly*; that is to say, the condensed Vapours *falling* from the upper Region do form themselves at Night toward the Surface of the Earth in Dews and wat'ry Drops, subject to be frozen by the Coldness of the Air: And therefore the more any thing lies open and exposed to this perpendicular *Descent* of Vapours, the more will it be subject to be *frozen*, or (which is the same thing) *blasted*. The Truth of which is confirmed to us both by Reason and Experience. As when a Fruit-Tree hath been set against a Slope-Wall, for the Convenience of receiving more of the Sun's Rays, we always find that *that* is the first and most blasted both in Spring and Autumn.

This

This therefore being the true State of the Caſe with reſpect to moſt of our deſtructive Blaſts, a little Philoſophy will teach us, that *horizontal Shelters* are the beſt Guard and Defence againſt *perpendicular Froſts*. And this is that which my worthy Friend made Experiment of in artificial ones made of Tiles or thin bits of Board faſtened in the Wall, which he found (as I have myſelf alſo found ſince) to anſwer to a Wonder, and to ſecure the Fruit where-ever they were placed.

However theſe artificial Shelters thus *occaſionally* placed, were rather uſed by Way of Trial and Experiment, than with any View to have them generally made uſe of in that Manner. I have therefore ſince conſidered with myſelf how theſe *horizontal Shelters* may be ſo contrived, as to make either little Trouble or Charge, and to be of general uſe; eſpecially to ſuch as have a Fruit-Garden, ſuch as I have above deſcribed, *yet* to make; or are willing to make new Walls for the greater Security of having Fruit.

Now the moſt plain and eaſy Method of doing this ſo as to anſwer our Purpoſe all at once, is to lay Rows of Tiles in the Structure of the Wall at certain Diſtances one above another, the Tiles jetting forward and hanging over the Plane of the Wall about an Inch and half. This is neither a difficult nor a chargeable Practice, if the Wall be of Brick, to place, betwixt every two or three Rows of Bricks, theſe horizontal Shelters of Tile; and if the Wall be of Stone, if the Joints be any thing regular, it is not leſs eaſy. But now to avoid the Inconvenience and Unſeemlineſs of Branches riding over the Edges of Tiles, it muſt be remembred, that at ſome convenient Diſtances in each Row of

Tiles,

Tiles, there be left *void Places* or *Gaps* for the Wood-branches to pass; which Gaps should also be left wider at the Bottom than the Top of the Wall. It is very material also to observe, that the Rows of Tiles should not be laid exactly horizontal, but rather a little *dipping*, the better to shoot off all Wet.

But to make so considerable an Improvement in Gardening plain and intelligible, I have thought fit to annex a Figure of a Fruit-Tree growing against a Brick-Wall with horizontal Shelters *; that at one View may be seen, not only how naturally the Wood-branches may be carried thro' the several Gaps, and all the void Places of the Wall filled; but also how a Tree managed according to Art, ought to grow and spread with horizontal Branches, and form itself in every Part regularly.

How these *horizontal Shelters* of Tile may be fix'd to Walls already built, I am not so well able to say; tho' I believe it *may* be done, especially on Stone Walls where the Joints are generally wide enough to admit the Thickness of a Tile: But because the Benefits attending this Method of Improvement, are still more and greater than any I have yet taken notice of, it will be necessary to be a little more particular, to encourage the building these Walls. For,

(1.) By the Help of these Shelters, even in the most difficult Year, a good Quantity of the choicest Fruit may *almost* be depended upon, from such Branches and Blossoms as are well sheltered by the Tiles, as Experience hath sufficiently shewn.

(2.) And,

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* See Fig. 3.

(2.) And, which is very conſiderable, Fruits thus ſheltered from perpendicular Colds and Blaſts, I have experienced to be much *larger*, *better fed* and *finer taſted*, than thoſe on the ſame Tree that are more expoſed And as a Conſequence of this,

(3.) They are alſo *forwarder* and much *earlier ripe* than others; which is no conſiderable Advantage; eſpecially with reſpect to all late ripe Fruit, ſuch as Peaches, Figs and Grapes, which in many cold Summers, without ſuch or the like Helps, would never be ripe at all. For tho' one might be tempted to think rather the contrary, on the Account of ſome of the Meridian Rays of the Sun can hardly be ſuppoſed to reach the Fruit moſt ſheltered; yet conſidering that the very Branch on which the Fruit gows hath the utmoſt Degree of Heat; that the Fruit itſelf, tho' not ſo much directly ſhone upon, is yet fed with the freeſt Circulation of Sap, and kept in a more even Degree of Warmth; laſtly, hat the Fruit thus ſheltered receives no ſmall additional Help by the Reflection of the Sun's Rays from the Row of Tiles below it: On all theſe Accounts it ſhould not ſeem ſtrange, that *horizontal Shelters* do really accelerate the ripening of Fruit, eſpecially when it is ſo well confirmed by Experience.

(*Fourthly* and *Laſtly*;) Walls built with theſe Rows of Tiles, will effectually cure that common Miſtake in Gardeners, of leading Wood-Branches perpendicularly; for if the Gaps be left, as they ought, not one directly over another in ſeveral Rows, the Branches will unavoidably be diſpoſed, as they ought, ſomething horizontally, and the Middle of the Tree kept free from great Wood.

Indeed

Indeed the Gardener muſt have a very unhappy Genius, if he can in theſe Caſes prune a Fruit-Tree amiſs. For if he do not leave the new Shoots too long, the Neceſſity of leading the Branches backward and forward (as may be ſeen in the Figure) will of Conſequence produce bearing Wood.

N. B. It is of great Conſequence to be pretty exact in keeping the *Projection* of Tiles to about an Inch and a half. For if more were allowed, and the Tiles ſtood farther out, too much of the Sun's Rays and Heat would be kept off from the Fruit and Branches; and if leſs, it would not be a ſufficient Shelter. Either Extreme would be worſe: And I believe it will be found that the Middle Proportion here mentioned will beſt anſwer the Purpoſe of this Improvement.

N. B. In the Caſe of *black Wind-Froſts*, which come more horizontally, altho' theſe *Shelters* will be of ſingular Advantage: yet it will be very proper to hang up Mats againſt ſome of the tendereſt Nectarines and Peaches. The Danger of having the Bloſſoms and tender Shoots beaten off by the Wind, will be effectually prevented by the *Projection* of the Tiles.

Note, Laſtly. The aforegoing Account of the *falling* of Vapours and forming themſelves in Miſts or Dews ſubject to be frozen, will ſerve to explain that very odd Phænomenon I have often taken Notice of: *Viz.* The Leaves and tender Shoots of a tall Aſh-Tree in one of theſe blaſting Miſts may be obſerved to be frozen, and, as it were, ſing'd in all the *bottom* and *middle* Parts, whilſt the *upper* Part of the Tree, that is exalted above the Influence of the Miſt, ſhall be left free and untouch'd.

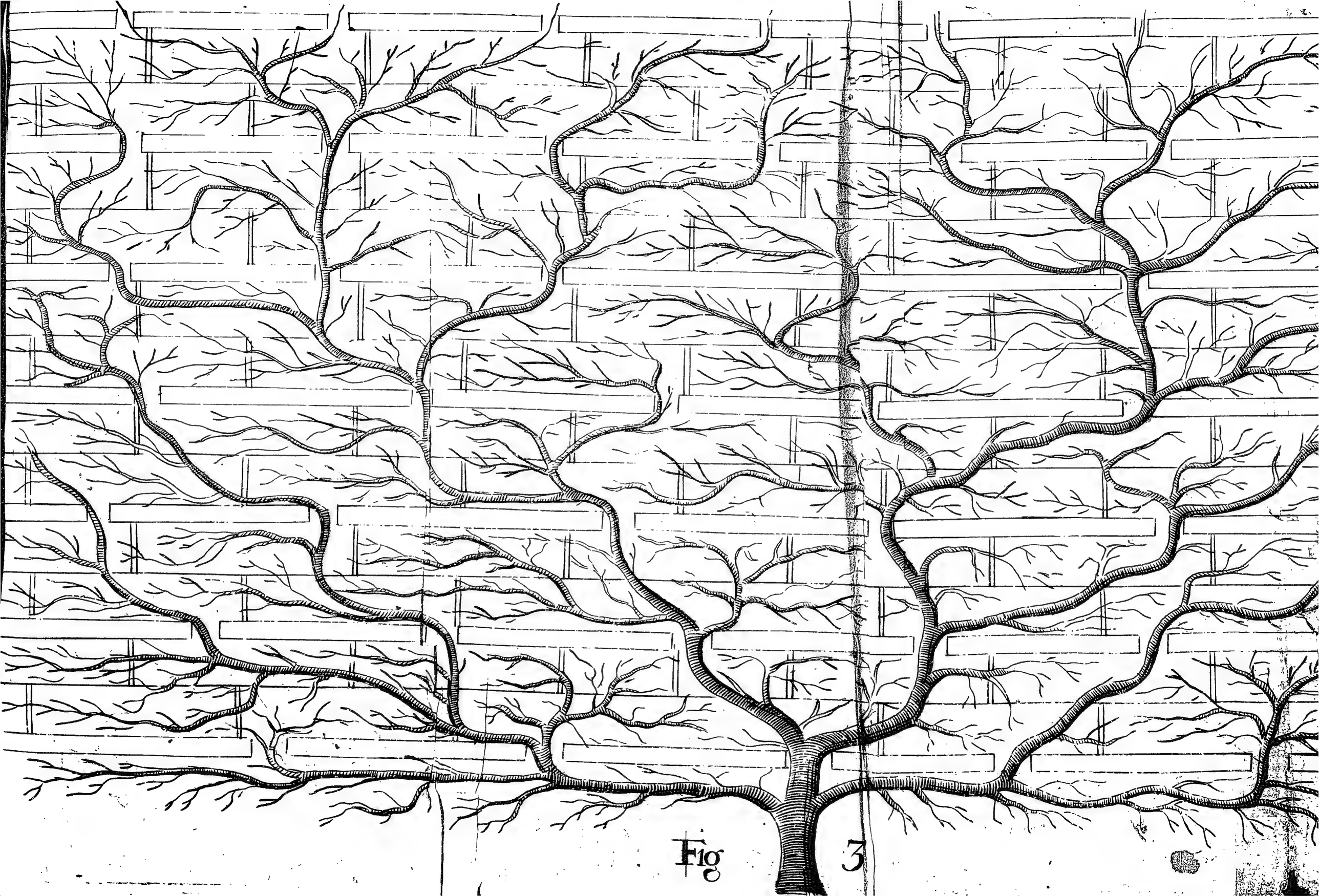


Fig 3



I need not apply the Philoſophy of this to the urpoſe of our *horizontal Shelters*: And a good lan need not be told, that tho' he is allow'd to lard himſelf by all prudential Methods againſt lisfortunes; yet his *ſafeſt* and *wiſeſt* way is always look *upward*; to pray for and expect the ſuper-atural Aids of divine Grace to ſweeten and allay ne Miſeries of Life.

Thus I have gone thro' the Subſtance of what I t firſt purpoſed in this Treatiſe; *viz.* to point out he chief and moſt general Cauſes of Barrenneſs in Fruit-Garden, and to provide proper Remedies gainſt them. And how far that Deſign hath been nſwered in the aforegoing Pages, I muſt leave to the andid Reader to judge: Only taking Notice here, hat what remains to be ſaid in the concluding Part f this Treatiſe, ſhall be only ſome farther Obſer-ations and Improvements, relating to the Art of Gardening, looſely ſet down, without any great Regard to Order or Connexion.

Concerning the great Uſe and admirable Qualities of Untry'd Earth.

WIthout intending in the leaſt to derogate from what the ingenious Mr. *Evelyn* and others have ſaid, concerning the ſeveral Sorts of Earths and their Improvements, I think my ſelf obliged to repeat and explain more largely, what I juſt hinted at in my firſt Part of Gardening; *viz.* the ſurprizing Succeſs which I had from the Uſe of *Untry'd Earth*, both with reſpect to what has been ſowed and planted in it.

By

By *untry'd Earth* I mean ſuch warm, mellow, rich Soil, as lies next the Surface (after the Turf is pared off) about Six or Seven Inches deep, in ſuch Places where neither Plough nor Spade hath ever come. Neither is this ſo difficult to be had as ſome may think, moſt Lordſhips (as far as my Obſervation has gone) affording it in one Place or other in ſufficient Quantities; either in the lower Grounds and Meadows ſometimes overflow'd, and ſo enrich'd with drift Sand; or in the ſeveral Waſts, Commons, or other By-places frequented by Cattle; and this Earth will in great Meaſure diſcover itſelf to skilful Judges, in the ſeveral *Grames*, by the Turf which grows upon it.

Taking it therefore for granted, that this rich *untry'd Earth* may be had without any great Charge or Difficulty, from the Experience I have had of its ſurpriſing Productions. I cannot but again and again recommend the Uſe of it for *Amendments* and *Improvements* both in the Fruit and Kitchen Garden. This I am aware will be thought ſtrange by all thoſe who have a Fondneſs for Dung, and think no Riches can be had without it. But I am well ſatisfied no Sort of *Compoſition* made with Art, can be brought to exceed in all Reſpects this which Nature offers ſo freely to our Hands. For if you plant the choiceſt Fruit-Trees in this Earth, they preſently diſcover an uncommon Healthfulneſs and Vigour: If you ſow any of the tender Sorts of annual Plants, if the Earth be diſcreetly choſen and made fine by a Sieve, you may preſently perceive they like the Soil by their flouriſhing Looks and Colour. Even Mellons and Cucumbers, which are uſually nurſed with the greateſt Art, and complimented with the richeſt artificial

artificial Mould, do prosper here to a wonder; and if they have but equal Care in other Respects, need no other Compost than this *untry'd Earth.*

Nay farther, in a Case where Dung has always thought to be wanted in greatest Abundance, (and it is accordingly *loaded* in at a great Expence) I mean in the making an Asparagus Bed, here all or most of that Expence is saved, and the Purpose as well, if not better, answered by the sole Use of *untry'd Earth* laid a Foot and half deep.

But lest it should be thought that I intend this *Nostrum* as a Sort of *Catholicon*, or Quack-Pill, to serve all Purposes alike, I think myself obliged to say, that I know of no extraordinary Excellence in this Earth with respect to Flowers; especially the nicer and more tender Sorts, but rather the contrary: So also for the several Sorts of Exoticks and choice Shrubs, a proper artificial Composition may be much better and more suitable to them than this rich Earth: But then in all such Cases and Instances, as serve to make a Garden fruitful and profitable (which is to my present Purpose) as far as my Experience reaches, this *untry'd Earth* is much preferable to rotten Dung or the common artificial Composts, for these following Reasons.

First, Dung, where it is laid in any Quantity, nightily fills the Place with many noxious Weeds, which, without great Care and Pains, will be apt to choak whatever is sowed or planted in it. But a Covering of this new Earth, being immediately fit for Use, is not so subject to that Inconvenience.

Secondly, Altho' plentiful dunging the Soil must be owned to be a great Amendment, and tends to make it rich and fruitful; yet Experience shews that all Legumes and annual Plants for eating, have

by

by no Means ſo *ſweet* a Taſte, as thoſe raiſed in pure *wholſome* Mould; ſuch as every one knows new broken up Ground produceth. Nitre and Sulphur are indeed the Life of Vegetation; but Dung, tho' full of them, contains alſo many other noxious heterogeneous indigeſted Juices, which generally give a ſtrong and unſavory Taſte to every Thing ſowed and planted in it. Whereas Earth taken from under an old Turf, having a ſufficient Quantity of Nitre or Sulphure, or both, ſufficient for the Purpoſe of Vegitation, hath all its Parts well mixed and incorporated, all its Juices are mellowed and refined by Age, and want only to be expoſed to the Air to exert themſelves. For which Purpoſe Monſieur *Quintiney* rightly obſerves, that the Senſe of Smelling is a proper Judge of the Goodneſs of Earth; becauſe an *ill Smell* will be ſure to give an *ill Taſte*.

This Matter is made plain to a Demonſtration in the Quality of Aſparagus planted in and about *London*; where having plenty of Dung, they form their Beds altogether of it at a great Depth; the Effect whereof is, that they have indeed exceeding large Aſparagus; but of a Colour ſo *unnatural*, and a Taſte ſo *ſtrong* and *unſavory*, that none who have taſted our finer and more natural Sort in the Country, will covet the former. And yet if it were any Recommendation of it to have it ſo very large, *untry'd Earth* may boaſt of Productions equal to thoſe at *London*; but indeed to me it ſeems a Fault, to have Aſparagus too large as well as too little, for this Reaſon; becauſe being ſubject to a Sort of Pith and Hollowneſs in the Middle, when it is very large, the Water it is boiled in is apt to lodge there, and gives a wat'ry inſipid Taſte to it. But ſtill I may add, *Thirdly*,

Thirdly, That tho' moſt of the artificial Compoſts come neareſt to the excellent Qualities of this *untry'd Earth* eſpecially when they have had ſufficient time to mellow and incorporate; yet this is cheaper; always ready at hand, and immediately fit for uſe: By which means the greater Quantity of Dung will be ſpared and allotted for the Paſture and Corn Land.

N. B. A Coat of this *untry'd Earth* laid only two Inches deep is ſufficient for moſt ſorts of annual Plants from Seed, ſuch as Beans, Peas, Lettuce, Spinage, Onions, Kidney Beans, *&c.* (except Carrots, Parſnips, *&c.* which require more) and will laſt well three or four Years without any other Amendment: And longer ſtill, if only a little Coat of Dung be allowed as a Foundation for this Earth.

N. B. The Parings of Turf taken off where this Earth is found, if not otherways required, ſhould be laid on Heaps to rot two or three Years; and this will produce incomparable Soil for Amendments; the oftner it is ſtirred, the better.

If it ſhall here be wondered at, that I ſay no more of the Management and Improvement of the Kitchen Garden, I have only this to ſay, That Subject ſeems to have been already exhauſted, by the many ſeveral Authors that have treated of it. Beſides, there ſeems to be nothing difficult in it; Every Man that can but handle a Spade being able and ready to give Inſtructions for what is proper to be done in all the ſeveral Parts of the Year. Only there is one thing relating to the Management of Hot-Beds, whereon Mellons and Cucumbers, *&c.* are wont to be raiſed, which it may not be amiſs here to take notice of; becauſe, tho' it

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hath been practiſed with Succeſs by ſome of the Gardeners near *London*; yet other Perſons curious in that Matter, not being apprized of it, may think themſelves obliged for the Relation.

Inſtead of making the Glaſs Frames, as is uſual, open at the bottom, they may be made with ſtrong Wires croſſing one another, ſo as to be able to ſupport a Bed of Earth four Inches deep for the ſeveral Plants to grow in: And thus the whole may be lifted by four Men from one Hot-Bed to another, as occaſion ſerves. This Method has theſe two very conſiderable Advantages attending it. Firſt, this ſaves the Trouble and prevents the Danger of *tranſplanting*, which oftentimes proves fatal; but always proves a great Check to the Growth of thoſe tender Plants: Secondly, here is no Intermiſſion in the Growth of the Plants, nor any artificial Heat of the Hot-Bed loſt or waſted, which in the ordinary Methods cannot be avoided; for there you muſt wait Six or Seven Days, till the great Heat be abated, leſt the tender Roots of the Plants be ſcorched: Whereas in the Caſe before us, you may allot juſt what Degree of Heat you pleaſe; for when the Heat is too violent, the Frame may be placed ſomething hollow from the Bed; when it abates, it may wholly reſt upon it; and when the Bed grows too cold, the Frame may be carried to another.

But I leave this Matter with the Curious to apply it as they ſee occaſion, and to make farther Improvements; intending here only to give ſome ſhort Hints of what I ſuppoſe may be made uſeful to the Publick, and acceptable to all contemplative and ingenious Gentlemen. Hoping therefore that what follows may alſo prove ſo, I will add ſome

Part

Particularities relating to the raſing and managing Fruit-Trees not yet touch'd on,

Experience having made it plain, of how great Conſequence it is to have all the tenderer ſorts of Fruit put upon right and proper Stocks by Inoculation, eſpecially where the Soil is cold and wet: And it being alſo found to be a Matter of ſome Difficulty to make the Stones of the larger ſorts of Plums to grow, ſeeing they commonly fail by being kept either too wet or too dry, I have thought upon and practiſed an Expedient, that doth, I think, effectually anſwer the preſent Purpoſe, *viz.* to inoculate the common ordinary Plum-Stocks or Suckers with the Pear, Muſcle or Bonum magnum Plums, and then upon the Shoots of theſe to put the Peach, Nectarine, or Apricot, as you deſire: And the Operation may be performed upon the firſt Years Production from the Plum-Stock; ſo that little Time need be loſt.

The Propriety and Reaſonableneſs of this Procedure is founded upon common Experience and Obſervation; that the Miſcarriage of theſe ſorts of Fruit put upon wrong Stocks is always at the Place of Inoculation; where they either put out Gum and die, by being not exactly incorporated; or elſe ſo very much ſwell and overgrow the Stock, that the Head is not duly nouriſh'd; for want, I ſuppoſe, of proper Ducts and ſufficient Juices below. I mention Plum-Suckers, not that I prefer *them*; but only that I think by frequent Removes in the Nurſery, they may be made to do well enough.

Altho' it be certainly known, that Grafting and Inoculation are the general Methods of *propagating* the ſeveral Kinds of Fruit already in being; yet *neither* of thoſe Operations tend to the Production

of any new Species; the Scion or Bud *always* following the Nature and Kind of the Tree from whence it was taken. From whence it follows, that all those several Species and different Sorts of the same Fruit which our Gardens furnish us with-al, were originally, (and in a *good Sense* accidentally) raised from the Seed, Stone, or Kernel of every *common Genus*, whether Pear, Apple, Plum, or Cher-ry, *&c.*

I have not my self had Leisure nor many Oppor-tunities of making Experiments of this Nature, but thus much is certain, that in the Productions of Fruit from the Seed or Kernel, Nature *commonly* and *for the most part* degenerates, and you have *ordinarily* from such Seed or Kernels a much worse Sort than that which was sowed. But then there is this *comfortable* Circumstance to be added, that *now and then* you have a Sort proves altogether as *good* as the Kind sowed; and *sometimes*, tho' not often, *much better* and *more excellent*; which has encouraged the Nursery Men to try Experiments, and has afforded those several *excellent* Sorts we daily hear of, to invite the Curious to taste the Fruit,

However, not satisfied with this general Know-ledge, my Curiosity has led me to enquire of others, of more Leisure and longer Experince, particular-ly as to Pears and Apples, whether they had ob-served the Degeneracy to be greater and more uni-versal in the Seed sowed from grafted Fruit, or that which was taken from good Fruit natural-ly raised. The Answer I had from one Friend was, That he could never observe the *latter* would much degenerate; for tho' 'twas often *different*, some-times much *the same*, and sometimes, tho' rarely, *better*;

better; yet that it hardly ever proved a Crab or Wilding: Whereas in the former Case, even from Fruit of the best Sorts grafted, the Production was commonly worse, and for the most part did partake of the Nature of the Stock, and proved a Wilding or Crab.

On the other Side I have now by me a Letter from a worthy Clergyman in *Worcestershire*, which tho' it gives a seemingly different Account from the former; yet because there are some curious Experiments in it, I shall here insert it for the Sake of the Publick.

Reverend Sir,

I Have now before me a Letter from a Friend, in which he tells me you have heard of my having Experience in raising Fruit-Trees by Kernels, and that the same hath produced Plants of different Kinds; you desire to know whether that Experiment hath been made with the Kernels of Fruit that was grafted, as well as of that *raised by Seed, and what Difference I have observed between them. I have rais'd great Numbers of Fruit-Trees from Kernels, both from the grafted Fruit, and from those raised from* Seed. *And from the Kernels only of three or four Sorts of Apples, I have, I believe, an Hundred different Sorts; some re-*

reſembling the Fruit ſowed; ſome abundantly better both in Colour and Taſte, and ſome of them perfect Crabs; but all of them diſtinguiſhable from each other; and, according to my Obſervation, the greater Number of the different Species come from the Kernels of the grafted Fruit. If this will be of any Service to you, I am ſure it will be a great Satisfaction to,

SIR,

Your very affectionate

Brother, and moſt

humble Servant,

Edw. Whitcombe.

If

If theſe two different Accounts may be reconciled on a Suppoſition, that Mr. *Whitcombe*'s Obſervations were made from the Kernels of Fruit grafted, not on *Crab-Stocks*, but on ſome of the *natural Apples* raiſed from Seed: Then the proper Uſe to be made from the whole, will be; That for all Perſons curious in the Art of Nurſery, the Way that is moſt likely to ſucceed in getting new Sorts, is to uſe the Stones or Kernels of the *natural* Sorts that are good, or rather the Kernels of the good *natural* Sorts, improved by grafting or Inoculation. But this alſo I leave with the ingenious Inquirers into vegetable Nature, for their farther Obſervations and Improvements; and proceed to

Note, Another thing worth remarking; *viz.* a very convenient Practice relating to the faſtening the Branches of Fruit-Trees on old Walls. This I have obſerved to be done with great Expedition, by uſing only ſmall Willows in the Winter, and Ruſhes in the Summer turned over the Branch, and then twiſted about a Nail already faſtened in the Wall. Now the great Benefit and Uſefulneſs of this Method will quickly appear to all ſuch, as have no better than old Walls, compoſed of indifferent Stone with large Joints, for Fruit-Trees to grow againſt: For theſe Sorts of mould'ring Walls are found to be much decayed and weakned, by the continual *drawing* the Nails every Seaſon, but by this Method are obſerved to laſt many Years.

I cannot well omit deſcribing here a very uſeful Inſtrument, contrived by a very ingenious Gentleman and Neighbour, for the more ſafe and ready tranſplanting Trees out of the Nurſery, or from

from one Part of the Garden to another, as Occasion requires. It is made exactly in the Shape of a little Tub, cut perpendicularly down the Middle into two semicircular Halves, something less at the Bottom than the Top: Which Semicircles being held together by Iron Hoops distinctly, are so contrived, as when they are used, to be held together only by Iron Hooks on one side, and drawn together by a long Iron Screw on the other. For after the circular Trench is made round the Tree, it will easily be perceived, that such an Instrument must be of great Use, to hold a sufficient Quantity of Earth about the Roots, and make its Removal safe, or very little injurious. I consider my Title Page, so need not use many Words: *Sapienti Verbum.* Once more.

Because the Grape is so noble a Fruit, when full ripe, some Years so difficult to be obtained, and therefore deserves our greatest Art to encourage it, I would recommend planting the Vine on such a *South* Exposition of the House or Out-Houses, as (if possible) may have the Advantage of a Slope falling to the *South*: Which Slope (especially if it were paved with Brick, Stone or Quarrs, which is very adviseable) collecting and receiving more of the Sun's Rays, will consequently afford greater and stronger Reflections of the same from several Angles of Incidence; and thereby much accelerate the ripening of the Fruit. I cannot easily be brought to think any Soil or Situation can be too dry for the Roots of a Vine, after having seen at *Barnwel* near *Oundle* in *Northamptonshire* a flourishing Vine grow from between the Joints of an old Castle Wall near 20 Feet high from the Ground, its Branches hanging downwards: And (as I was told)

told) when it was carefully pruned and managed, it produced admirable Grapes.

N. B. Becauſe the chief Beauty of Trees planted in Rows for Avenues conſiſts in their being ſtraight, regular and upright; and becauſe there are many other Caſes wherein it is very undeſireable to have a Tree grow crooked and irregular, it may not be amiſs to inform the Curious, that cutting ſuch a Tree in the Ham or Bend of the Crook with a Knife perpendicularly, 6 Inches above and 6 below in two or three Places, will ſtrangely facilitate its Reduction, and in three or four Years perfects its Cure, provided the Tree be but pruned up, and freed of all its Branches below and a little above the Bend, and Care to be taken every Year to renew the Slits.

N. B. Although it be contrary to common Practice and the Rules of Gardening to ſet Apple Trees againſt a Wall; yet it may not be improper on ſome *Weſt* Wall, where there is Room to ſpread to afford a Place for a golden Pippin, for the ſake of that ſurprizing large Fruit it will afford, ſo much beyond the ordinary Size; which may not perhaps be thought *better*: But if it be *bigger* and not *worſe*, it cannot ſure be unacceptable to behold and taſte ſuch a *Bonum Magnum*.

Two glorious Qualities in whatſoever Subject they meet, and are always in ſome Degree or other a Reſemblance of the Divine Fountain of Goodneſs; even of Him who is the One ſupreme, ſelf-exiſtent, independent, unoriginated ὁ μόνος ἀγαθὸς, ὁ παντοκράτωρ, ὁ Θεὸς: * To whom be Honour, Glory, Dominion and Power by Chriſt Jeſus throughout all Ages, World without End! *Amen.*

APPEN-

* Rom. 16. 27. Eph. 3. 21. 1 Pet. 5. 10, 11.

APPENDIX.

The following Letter was sent me from a Brother of mine in London. *The Method he there gives for finding a Meridian Line appears to be most accurate of any that I know of.*

Dear Brother,

UNderstanding you intend to direct a Method for finding a Meridian Line in your Book of Gardening, it may be you may think it of Use to the Publick to have (besides yours) a short Description of a new and familiar Way of doing it very exactly by the Pole-Star; thus.

First, Adjust your Clock or Watch, as near as may be, by a Quadrant, or otherways. Then fix a strong Pole of about 14 Foot long as near as you can perpendicularly, and at 12 a Clock make a Mark at about 5 Foot distance in the Shadow, where you are to fix another Pole of the same Height as before, which Two Poles will be nearly in

in a Meridian. Then at the Top of each of these Poles, nail Pieces of Wood or Iron about 2 Foot long, yet so as to be moved upon Occasion. At the Ends of these fasten Lines of fine Cat-gut, with leaden Weights at the End of them, with a Liberty of slipping backward and forward, till the Eye, the Two Strings, and the Pole-Star are in a right Line, at such Time as the Pole-Star comes to the Meridian. To find which, observe the following Directions.

Substract the right Ascension of the Sun (which is found by the following Table for every Day in the Year) from the right Ascension of the Pole-Star (which is now 37 Minutes in Time, and increaseth 1 Minute and 16 Seconds in 10 Years) the Remainder will correspond to the Time of the Pole-Star's coming to the Meridian above the Pole, and near 12 Hours before or after will be the Time of its coming to the Meridian under the Pole. Thus because 11 ♀. 0. in Aries corresponds to 37 Minutes in Time of right Ascension; when the Sun is there (which is *March* 20.) the Pole-Star comes to the upper Meridian at Noon. And because 191 ♀. 0. of the Ecliptick (where the Sun is *Sept.* 22.) hath 12 *h.* 37 *m.* in Time of Ascension, the Pole-Star comes to the same Meridian at Midnight: And in both Cases its Hours from that Meridian agree with the ordinary Reckoning of Hours with us. At other Times it comes sooner than the Sun, *viz.* about 4 Minutes every Day, or an Hour in 15 Days. Thus *April* the 22d last Year, the Day of the great Eclipse, the Sun's right Ascension was 2 *h.* 41 *m.* in Time; which deducted from 37 Minutes, or 1 *h.* 37 *m.* the Remainder is 9 *h.* 56 *m.* which shews that the Pole-Star came

to

to the upper Part of the Meridian at 9 a Clock, and 56 Minutes before Noon; and at 9 at Night, and about 54 Minutes paſt to the lower Part of the Meridian, which is nearly 4 Minutes for a Day or an Hour, for 15 Days along the Ecliptick, and ſo in all other Caſes whatſoever.

N. B. When the Sun's right Aſcenſion exceeds 12 Hours 37 Minutes, you are to remember to add 24 Hours to the right Aſcenſion of the Pole-Star; the former being ſubſtracted from the latter, gives the Time in the Afternoon of the Pole-Star's coming to the upper Meridian. Thus *Jan.* 5. the Sun's right Aſcenſion is 19 *h.* 52 *m.* which ſubſtracted from 24 *h.* 37 *m.* leaves 4 *h.* 45 *m.* and thereby ſhews that the Pole-Star came to the upper Meridian at ¾ paſt 4 in the Afternoon.

Your Two Strings being placed in the true Meridian, you may with great Exactneſs know when the Sun is in the Meridian, *viz.* by the Help of a ſmok'd Glaſs (to prevent the Sun's glaring in your Eyes) bring your Eye cloſe to the *Northern* String, and when your Eye, the Two Strings, and the Centre of the Sun are all in a right Line, you may be aſſured 'tis exactly 12 a Clock. And becauſe the Sun's Azimuth is ſwifteſt at that Time, you may in a few Seconds obſerve its Motion from the Strings.

N. B. If you ſet Two Veſſels of Water, ſo that each Weight at the Two Strings be juſt covered they will hang much the ſteadier; and if your Obſervation is made when 'tis very dark, it will be convenient to have a Candle held at the *Northern* String.

An exact Meridian thus obtained being not ſuppoſed to continue in that Manner, it may not be amiſs

amiſs to direct the transferring it within-ſide the Houſe, in order to anſwer readily and exactly all future Purpoſes, and aſſiſt the Curious to adjuſt Clocks, Sun-dials and Watches; to find the true Bearing of all near or diſtant Places; and (which is very conſiderable) to find the exact Latitude of the Place, as will be eaſily obſerved by any one that hath but the leaſt Skill in Trigonometry.

In Order then to transfer your Meridian within-ſide the Houſe, makeor drill a Hole in one of the upper Panes of Glaſs in a high Window, painting the Glaſs black in a Circle 3 or 4 Inches round the Hole. This done, cauſe a Signal to be given when the Sun is exactly in our Meridian, and at the Inſtant make a Mark where the Centre of the Light falls on the horizontal Floor. Then by the Help of a Plum-Line, bring your Eye, the Mark made on the Floor, and the Hole in the Glaſs, all in a right Line, and the String will direct you to another Point in the ſame Line; from which Two Points draw a ſtrait Line made viſible, and this will be a moſt exact Meridian. I am,

Dear Brother,

London, Jan. 5. 1716.

Yours affectionately,

EDWARD LAURENCE.

A

A Table of the Sun's right Aſcenſion in Time for every Day in the Year.

D.	*Jan.*		*Feb.*		*March.*		*April.*		*May*		*June*	
	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.
1	19	35	21	43	23	29	1	21	3	15	5	20
2	19	39	21	47	23	32	1	24	3	19	5	24
3	19	43	21	51	23	36	1	28	3	22	5	28
4	19	48	21	55	23	40	1	32	3	26	5	32
5	19	52	21	59	23	43	1	36	3	30	5	36
6	19	56	22	3	23	47	1	39	3	34	5	41
7	20	0	22	6	23	51	1	43	3	38	5	45
8	20	4	22	10	23	54	1	47	3	42	5	49
9	20	8	22	14	23	58	1	51	3	46	5	53
10	20	13	22	18	0	1	1	55	3	50	5	57
11	20	17	22	21	0	4	1	58	3	54	6	2
12	20	21	22	25	0	8	2	1	3	58	6	6
13	20	26	22	29	0	12	2	5	4	2	6	10
14	20	30	22	33	0	16	2	9	4	6	6	14
15	20	34	22	37	0	20	2	13	4	10	6	18
16	20	38	22	40	0	23	2	16	4	14	6	22
17	20	43	22	44	0	26	2	20	4	18	6	27
18	20	47	22	48	0	30	2	24	4	22	6	31
19	20	51	22	52	0	34	2	28	4	27	6	35
20	20	55	22	55	0	37	2	33	4	31	6	39
21	20	59	22	59	0	41	2	37	4	35	6	43
22	21	3	23	3	0	44	2	41	4	39	6	47
23	21	7	23	7	0	48	2	44	4	43	6	51
24	21	11	23	10	0	52	2	47	4	47	6	55
25	21	15	23	13	0	55	2	51	4	51	6	59
26	21	19	23	18	0	59	2	55	4	55	7	4
27	21	23	23	21	1	2	2	58	4	59	7	8
28	21	27	23	24	1	6	3	2	5	3	7	12
29	21	31	23	27	1	10	3	6	5	8	7	16
30	21	35			1	14	3	11	5	12	7	20
31	21	39			1	17			5	16		

The Table continued.

D.	*July.* h. m.	*August* h. m.	*Sept.* h. m.	*Octob.* h. m.	*Nov.* h. m.	*Dec.* h. m.
1	7 24	9 26	11 20	13 9	15 9	17 17
2	7 28	9 30	11 24	13 12	15 13	17 21
3	7 32	9 34	11 28	13 16	15 17	17 25
4	7 36	9 37	11 32	13 20	15 21	17 30
5	7 40	9 41	11 35	13 24	15 25	17 34
6	7 44	9 45	11 39	13 27	15 29	17 39
7	7 48	9 49	11 42	13 31	15 33	17 43
8	7 52	9 53	11 46	13 35	15 37	17 48
9	7 56	9 56	11 50	13 39	15 42	17 52
10	8 1	10 0	11 53	13 42	15 46	17 57
11	8 5	10 4	11 57	13 46	15 50	18 1
12	8 9	10 7	12 1	13 50	15 54	18 5
13	8 13	10 11	12 4	13 54	15 59	18 10
14	8 17	10 15	12 8	13 58	16 3	18 14
15	8 21	10 18	12 12	14 1	16 7	18 19
16	8 25	10 22	12 15	14 5	16 11	18 23
17	8 29	10 26	12 19	14 9	16 16	18 27
18	8 33	10 29	12 22	14 13	16 20	18 32
19	8 36	10 33	12 26	14 17	16 24	18 36
20	8 40	10 37	12 30	14 21	16 29	18 41
21	8 44	10 40	12 33	14 25	16 33	18 45
22	8 48	10 44	12 37	14 29	16 37	18 50
23	8 52	10 47	12 40	14 33	16 42	18 54
24	8 55	10 51	12 43	14 37	16 46	18 58
25	8 59	10 55	12 47	14 41	16 50	19 3
26	9 3	10 58	12 51	14 45	16 54	19 7
27	9 7	11 1	12 54	14 49	16 59	19 12
28	9 11	11 5	12 58	14 53	17 3	19 16
29	9 15	11 9	13 2	14 57	17 8	19 20
30	9 18	11 13	13 6	15 1	17 12	19 25
31	9 22	11 16	——	15 5	——	19 29

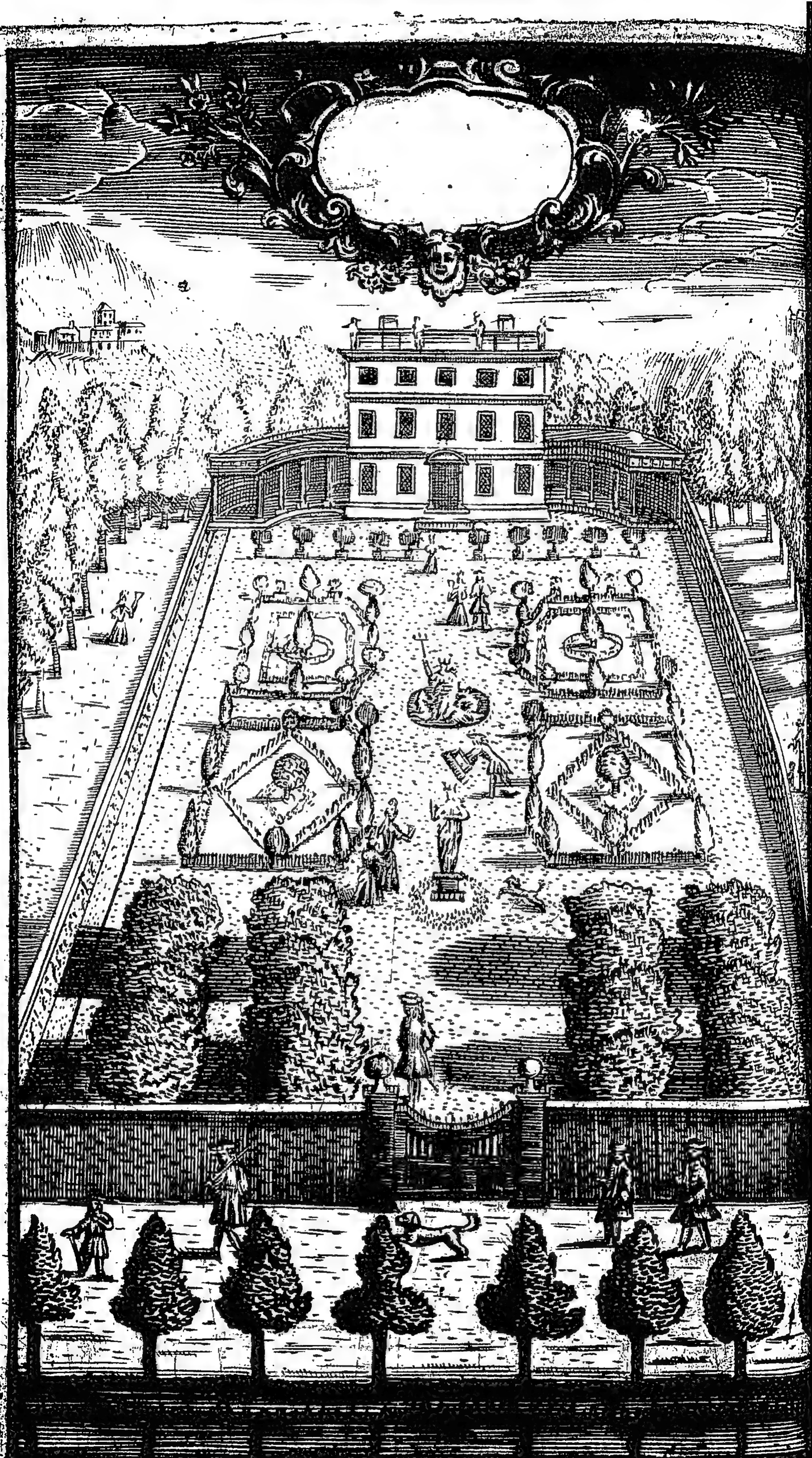
A Table

A Table ſhewing what Angle the Pole-Star makes from the Meridian at every Hour and Half-hour before and after the Time of its coming to the Meridian both above and below the Pole.

Hours.	Diſtances from the *North* above the Pole		Hours.	Diſtances from the *North* below the Pole.	
	°	′		°	′
12	120	00	6	3	41
½	½ 0	30	½	3	38
11	11	00	5	3	31
½	½ 1	29	½	3	21
10	2 1	56	4	3	07
½	½ 2	21	½	2	50
9	3 2	42	3	2	31
½	½ 3	00	½	2	09
8	4 3	17	2	1 0	46
½	½ 3	28	½	1	21
7	5 3	37	1	11 0	55
½	½ 3	45	½	½ 0	27
			12	12 0	0

The Reader may obſerve by this Table, that if his Obſervation was made ⅛ Part of an Hour before or after the Time Pole-Star's coming to the Meridian, the Difference in finding a true Meridian by this Method will not be ſenſible.

LIBRARY OF THE



THE

Lady's Recreation

OR,

The THIRD and Laſt Part

Of the

ART of GARDENING Improv'd.

Containing,

I. The FLOWER-GARDEN; ſhewing the beſt Ways of propagating all Sorts of *Flowers*, *Flower-Trees*, and *Shrubs*; with exact Directions for their *Preſervation* and *Culture* in all Particulars.

II. The moſt commodious Methods of erecting *Conſervatories*, *Green-Houſes* and *Orangeries*; with the Culture and Management of *Exoticks*, *Fine-Greens*, *Ever-Greens*, &c.

III. The Nature of Plantations in *Avenues*, *Walks*, *Wilderneſſes*, *&c.* with Directions for the Raiſing, Pruning, and Diſpoſing of all lofty *Vegetables*

IV. Mr. JOHN EVELYN'S *Kalendarium Hortenſe*, methodically reduc'd: Interſper's'd with many uſeful Additions.

By CHARLES EVELYN, Eſq;

To which are added,
Some curious Obſervations concerning *Variegated Greens*, by the Reverend Mr. LAURENCE.

London Printed; And Reprinted in *Dublin* for G. *Grierſon*, at the *Two Bibles* in *Eſſex-ſtreet*, 1717.





The Preface.

I HAVE been ſome Years in making the Obſervations here communicated to the Publick; and tho' a few of them may ſeem to interfere with what has been already advanc'd by other Authors, I hope this Treatiſe will not therefore ſuffer in its Reputation, ſince every Man's Experience is his own. And thus much I can ſafely ſay in behalf of this Performance; That there is no one Head upon which I have treated, without ſomething New; and through the whole will be found ſeveral Improvements.

I have nothing to ſay either of the Uſefulneſs or Entertainment of Works of this Nature. Thoſe Topicks having been judiciouſly handled by Mr. *Laurence*, in his two excellent Treatiſes, make a long Preface in this Place entirely unneceſſa-

ry: But I think it incumbent upon me to advertiſe the Publick, That before I committed theſe Papers to the Preſs, I communicated my Intentions to Mr. *Laurence*; which he approv'd, with ſo much Candour, that I am at a loſs how to expreſs ſufficiently my Gratitude for ſo great a Favour. This Gentleman was ſo kind as to declare himſelf *highly pleas'd with my Deſign, as what he had long wiſh'd might be undertaken; and that the Specimen I had given him of my Manner of Writing, made him hope I ſhould anſwer the Expectations of the World in that other Part of Gardening, equally Entertaining, and much wanted, relating to Flowers, Green-Houſes*, &c. For which, and other Encouragements, not thought fit here to be mention'd, I refer the Reader to his Letters inſerted at the End of this Work.

THIS is all I have to obſerve by way of Preface, relating to this ſmall

Under-

Undertaking : But I cannot conclude without taking notice of the Ignorance and Arrogance of a late * *Author*; who, because (as he tells the World) he has a larger Garden than Mr. *Laurence*, thinks he has therefore a larger ſhare of Expe-rience. In his Preface he attempts to find Fault with Mr. *Laurence*'s Method for erecting *Fruit-Walls* with *Horizontal Shelters*, mention'd in his *Second Part*; which he would inſinuate to be contra-dictory to the Directions offer'd in his *Firſt Part*. *This ſeeming Miſtake* charg'd upon Mr. *Laurence*, happens to be a *real One* on the Side of Squire *Collins*; for he does not conſider that equal miſchief is done by *BlaſtingWinds*, as by *Nipping-Froſts*; and that particular Meaſures (as directed by Mr. *Laurence*) are ne-ceſſary for guarding againſt both the one and the other.

THIS pretended *Retriever* of *Paradice*, by endeavouring to find Fault

* One that has publiſh'd a Tract, call'd *Paradice Retriev'd*.

with Mr. *Laurence*'s *Second Part*, ſtand corrected in many Particulars by hi *Firſt*. And tho' in his Preface he think himſelf a compleat Maſter of the Subje he has undertaken, yet his Book ſuffi ciently evidences, that he is a mere No vice ; for which I appeal to all judici ous and impartial Gardeners. Indeed Mr. *Laurence* has no Obſervations rela ting to the training up of common *Hedge Plums*, (which were beautiful Trees in *Paradice*, no dout) but he has more no ble Speculations : And however he may have *ſingly* preach'd People into an Ap probation of his Book, (meaning, I ſuppoſe the *Divine Contemplations* inter ſpers'd) yet the Squire and his *hundred* brib'd *Gardeners* cannot influence the Publick with an Opinion of his *Trifle* ; and notwithſtanding he has *depos'd* the † *Parſon* and all his *Brethren*, they will live and flouriſh, when his *Paradice* is turn'd into *a Deſart*.

† A Word Squire *Collins* is very fond of.

THE

THE

Lady's Recreation;

being a THIRD PART of the Art of GARDENING, *Improv'd.*

The INTRODUCTION.

AS the curious Part of *Gardening* in general, has been always an Amuſement choſen by the greateſt of Men, for the unbending of their Thoughts, and to retire from the World; ſo the Management of the Flower-garden in particular, is oftentimes the Diverſion of the Ladies, where the Gardens are not very extenſive, and the Inſpection thereof doth not take up too much of their Time. And as an Encouragement to the fair Sex, in this moſt pleaſant and agreeable Employment, a certain Lady of the firſt Quality, who had a Soul above her Title, Senſe beyond what is common in her Sex, and Greatneſs and good Nature ſo agreeably mix'd, as to leave few Equals behind her †, thought it no Diminution to concern her

† *The late Dutcheſs Dowager of* Beaufort.

ſelf

self in the directing Part of her Gardens; wherein, by her Knowledge and Management, she has given the greatest Example of Female *Horticulture*, perhaps, that any Nation can produce: Her Green-Houses and Parterres were fill'd with the utmost Variety, not only of all sorts of beautiful Flowers, and the finest and most valuable Greens and Plants that this Climate affords, but also that are to be met with in any other Country whatsoever. And at length she arriv'd to so great a Perfection, that she could challenge any foreign Gardens to produce greater Curiosities than her own. * But, to quit an unnecessary Introduction, and come to the Business I propose in this small Treatise, I shall not give you a particular Description of every Individual Flower you'll find in the Parterre and Flower-Garden; the Reader must be very sensible that such a Narration would swell this Treatise to a much greater Extent than might be necessary, or well understood; I shall therefore contract what I have to treat of into the narrowest Compass I can, with a just Regard to the most estimable Flowers, and their exact Management; and endeavour so far to imitate the former Parts of this Work, as to contain *multum in parvo*. My Subject of Flowers I divide into the three following Chapters; viz. Chap. I. *Of Earth and Soils proper for Flowers, and the Disposition of the Flower-Garden.* Chap. II. *Of Flower-Seeds and Plants, their Sowing and Culture*, &c. Chap. III. *Of Flower-Trees, Shrubs, and other curious Plants.*

* *Her Grace's Gardens at* Badminton *in* Gloucestershire.

CHAP.

CHAP. I.

Concerning Earth, *and the moſt agreeable* Soils *for* Flowers, *&c. in general*; *and the Diſpoſition of the* Garden *of* Pleaſure.

I Have often heard it obſerv'd by ingenious Floriſts, and frequently found, by Experience, that ſandy Ground is the moſt agreeable to all ſorts of Flowers, it being very warm, and apt for Vegetation; but if the Sand be predominant, a conſtant Supply of proper Soils will be neceſſary for its Support: Therefore the beſt and moſt unexceptionable Soil, is a loamy Sand pretty ſubſtantial, and of a dark Colour, advantageouſly mixing with good Mould; but then it ought to be rather light than heavy, and by no means too moiſt.

There are many Soils and Enrichments preſcrib'd for Flowers, where the Land fails to be of a productive Quality; and fine ſtrong Mould alone, being well ſifted, has a very good Effect; but for the choiceſt Flowers, eſpecially when they are rais'd by Seed, a choice Soil muſt be provided, ſuch as you meet with under Wood-Piles, all ſorts of rotten Wood; and particularly the rotten Duſt of a moulder'd old Willow Tree, is excellent, being mix'd with a good Quantity of well rotted Cow-Dung, and ſome Sand, if it be neceſſary; decay'd Saw-Duſt is a good Compoſt; as is alſo a Mixture of a third Part of Brook-Sand, a third Part of well rotted hot Bed-Mould, and a third of Kitchen Garden Earth.

Where your Land is of a cold Nature, as Clay-Ground commonly is, it is convenient to give it frequent

quent Digings for the benefit of the Sun to meliorate it, wherein throwing it on Heaps or Ridges, with ſmall Chanels between, will be attended with the beſt Succeſs; and Pigeons Dung, Hens Dung, or Horſe Dung, are the beſt Soils, tho' Lime and Aſhes are very good. And where the Ground is of a hot Nature, beſides Cow-Dung, the common cooling Soil, Hogs Dung is preferable to any, but this is eſteem'd moſt proper for Fruit-Trees. Sheeps Dung mingled with about four or five Times the Quantity of fine ſifted Earth, and both rotted together, or ſuch a Compoſition of Cow-Dung, is an excellent Soil for almoſt all Sorts of Flowers and tender Plants, particularly the moſt fibrous rooted Flowers. A Mixture of Marle, and the Mud of Lakes, or ſtanding Waters is a promiſing Compoſt for ſandy Land. Rotten Straw, mix'd with Earth, make a pleaſing Soil for fibrous rooted Flowers: And the Mud and Sediment of Ponds well choſen, is good for all Garden-Grounds. The ſeveral ſorts of Soils above-mentioned, ought to be kept entire by themſelves in ſome place of Reſerve, uſually near Hot-Beds, and there to be ſo order'd as to be always fit for Uſe when Occaſion ſhall require.

I have nothing farther relating to the Election of agreeable Soils for the Flower-Garden, and the particular Compoſts requiſite to preſerve the ſame in all Caſes in a flouriſhing Condition, more than to obſerve, that all Borders, of courſe, will require to be new made once in about three Years. I ſhall now treat of the Situation, Diſpoſition, and well laying out of the Parterre, or peculiar Plat of Ground allotted for Flowers,

For Situation of your Garden, endeavour to make ſuch a Choice of Ground, that it may have the Be-

nefit

nefit of the Air, free and open to the South-East, or East, but the former is moſt eligible; and being ſufficiently defended by tall Trees, the Houſe, or diſtant Hills, from the Northerly Winds, wherein lofty Trees, tho' at a Diſtance, will very much break the fierceſt Blaſts. And if the Land in the Country where you are obliged to erect your Garden, be generally cold or moiſt, you'll be under a Neceſſity of chooſing your Ground declining or ſhelving towards the Sun, which is the beſt Poſition, and will facilitate the Growth of Trees, Plants, and Flowers, being naturally drain'd of its immoderate Moiſture by its Situation, and thereby render'd very healthful and fertile. I preſume I have no Occaſion to put the Gentleman in Mind of fixing his Garden near ſome River or plenteous Springs of Water, which (beſides the Improvement that Elements affords to the Lands) ſo eminently improves the Beauty and Glory of the Garden.

The great Variety of Forms and Plants of Gardens, that might be drawn and repreſented, and the working part of them, I leave to the practical *Gardener*, whoſe immediate Buſineſs it is; and ſince it would be no ſmall Difficulty to preſcribe Rules in a caſe where Fancy entirely governs, and every Builder is moſt capable of pleaſing himſelf, I ſhall therefore be contented with the ſmall Scheme I have given in the Front of this Treatiſe, and the following ſhort Explanation of it, *viz.* You are no ſooner out of the Houſe, but you are in a Walk of *Orange-Trees*, whoſe fragrant Smell, eſpecially in the Blooming Seaſon, excels that of all other Plants and Flowers; from thence you proceed to Graſs-Plots and Squares, filld with the moſt beauteous Greens, and Borders ſet off with the moſt delightful Flowers. From thoſe Entertainments, you advance to a Fountain of the beſt

beſt Architecture: From thence you come to other Graſs-Plots of various Forms, fine Greens, and beautiful Flower-Hedges; with the Addition of an excellent contriv'd Statue, repreſenting *Flora*; from whence you enter a well-form'd flouriſhing Wilderneſs; and being no longer pleas'd with a ſolitary Amuſement, you come out into a large Road, where you have the Diverſion of ſeeing Travellers paſs by, to compleat your Variety.

This is the Deſign of my Print prefix'd in the Front, to which I ſhall add my Intentions, in Reſpect to Seats and Out-door Edifices; at each End of the *Orange*-Walk, I would have an arch'd Seat, equal in Wideneſs to the Walk, *to wit*, about eight or ten Foot; theſe Seats would not be a little pleaſurable, as an immediate Reſort from the Houſe. The next Thing I would do, ſhould be to erect ſmall Seats of a Size, fit to receive two or three Perſons, to be plac'd on each ſide the Garden, at the Termination of the Croſs-Walks; then, for cool Receſſes, there's no Part of the Wilderneſs, but might with Facility, and for a trifling Expence, be converted into a moſt commodious Arbour; and that I might be perfectly retir'd, in the Middle of each Square of the Wilderneſs, or of two of them at leaſt, there ſhould be a large Elm or Fir, with a ſmall Seat enclоſing the Body thereof, and the Ground open in a Graſs-Walk, for about the Space of ſix, ſeven, or eight Foot, *&c.* round, according to your Room, having a very narrow and almoſt conceal'd Entrance from the Walks; and for more publick Uſe, there might be large Trees planted in the Center of the Wilderneſs, with ſmall Seats erected round them likewiſe; theſe Seats, with one or two ſmall moveable ones, of a Size to contain one Perſon only, and a ſmall Pleaſure-Houſe erected at one Corner of

the

the Wilderneſs, under the Wall, opening to the Walk of the ſide of the Garden, to reſort to in wet and unpleaſant Weather, or upon any other Occaſion; with a ſmall Edifice on the other ſide the Garden, at the other Corner, of the ſame Extent and Form of the Pleaſure-Houſe, and anſwering to the ſame, as a Conſervatory for your fine Greens in the Winter, and for the keeping of the *Gardener*'s Untenſils; with the Addition of ſome high Mount, or exalted Terras-Walk, near, for the Enlargement of Proſpect, would compleat a Garden, to the Satisfaction of the moſt Curious.

In Reſpect to the laying out, and proportioning of Gardens in General, I ſhall advance very few Rules; the Reverend Mr. *Laurence* having very handſomely deſcanted on this Subject. The Extent of your Garden always determines the Extent of your Walks, Parterres, Graſs-Plots, *&c.* if your Garden be large, of Courſe they muſt be large too; and if ſmall, of Conſequence they muſt be ſmall likewiſe: But to give one Example, A Garden, or rather a Parterre, of ſeventy Foot every way, will requare the Squares, or Graſs-Plots, to be about twenty five Foot ſquare, calculating four Squares for the Diſpoſition of the Ground; the middle Walk may be about ſix or ſeven Foot wide; and the ſide Walks about four Foot each; which, with the Borders under the Walls, will employ the whole Ground: Each of theſe Squares may very vell receive nine faſhionable Greens regularly diſpos'd, ſuch as Pyramid *Eughs*, round-headed *Laurels* and *Bays*, ſilver Pyramid *Hollies*, *Junipers*, *&c.* the Borders being fill'd up between with the moſt odorous and beautiful Flowers: And by this Proportion may a larger or ſmaller Plot of Ground be laid out.

Having

Having given you the Dimenſions of a ſmall Garden of Pleaſure, I have only to obſerve, that it is moſt uniform to make the Entrance into your Garden out of one of the moſt magnificent Rooms in your Houſe, or very near the ſame; and to preſerve that Entrance from common Uſe, you may have ſome other Door into your Garden for Gardeners, Labourers, *&c.* and let your principal Walk extend it ſelf as far as you can, directly from your Houſe, adorn'd with the choiceſt Plants for Beauty and Scent, wherein, the longer the Walk is, the larger are the Plants to be, and the wider in Extent the Gravel-Walk.

The Method of making Gravel-Walks, is obvious to all Perſons of the leaſt Knowledge in Gardening; I ſhall therefore make no Mention of it, only caution the Gentleman to have the good Soil remov'd for a ſufficient Depth, before the Gravel be laid, otherwiſe the Walks will be fill'd with Weeds not eaſily to be eradicated; and the moſt ſucceſsful Method for the Preſervation of your Walks from Weeds, is to dig them up, on the Approach of Winter, and let them lye fallow in high Ridges 'till the Spring, and then repeat the Digging, and new lay them down, they'll be ſecure from Weeds the whole enſuing Summer.

CHAP. II.

Of Flowers, *the* Seeds, *and their Sowing and Planting Abroad; with their particular Management.*

I Come now to the particular Flowers, wherein it is neceſſary to premiſe, that your Garden ought to be well dug three Times over, before you commence

commence your Plantations; the firſt Time in *September*, the ſecond Time in *November*, and the third Time in the *Spring*. Your Flower-Garden being ſo prepar'd, and well ſoil'd with the Compoſts before recommended, where requiſite; I proceed to the Flowers themſelves, and their particular Management.

All Flowers are rais'd either by Seeds, or Off-ſets and Layers. The Flowers rais'd by Seeds, are the following; The *Tulip*, *Carnation*, *Auricula*, *Crocus*, *Crown-Imperial*, *Flower-de-luce*, *Jacinth*, *Narciſſus*, *Honey-Suckle*, *Bell-Flower*, *Anemone*, *Cardinal-Flower*, *Cyclamen*, *Lady-Smock*, *Fraxinella*, *Star-Flower*, *Flower of Briſtol*, *Sun-Flower*, *Daffodil*, *Sweet-William*, *Pink*, *Saffron*, *Piony*, *Gilliflower*, *Primroſe*, *Oxſlip*, *Cowſlip*, *Violet*, *Maddow-Sweet*, *Nightſhade*, *Moly*, *Ciſtis*, *Spaniſh-Broom*, *Hellebore*, *Daſie*, *Liverwort*, *Sweet John*, *Lychnis Chalcedonica*, or *Nonſuch*, *Sow-Bread*, *Bears-Ear*, *Aſphodel*, *Hepatica*, *Amaranthus*, *Nerſtertian*, *Marvel of Peru*, *African*, Red *Sattin Flower*, *Larks-Heel*, *Snap-Dragon*, *Double Poppy*, *Fox-Glove*, *Columbine*, *Indian Creſſes*, *Double Hollioak*, *Lupine*, *Fennel-Flower*, *French Marigold*, *Bind-Weed*, *Sweet Baſil*, *Sweet Marjoram*, *Scarlet Bean*, *Candy-Tuft*, *Everlaſting Peaſe*. Theſe Flowers, or Plants, are many of them of more than a Year or two Years Duration; and not a few of them may, with equal Succeſs, be rais'd from Layers, Slips, Cuttings, *&c.* as will appear in my particular Deſcription of them, and the following Account of Flowers raiſed by Off-ſets, *&c.*

The Flowers which are commonly rais'd and increas'd by Off-ſets, are, *Anemones*, *Ranunculus's*, *Corn Flags*, *Flower-de-luces*, *Lillies*, *Peonies*, *Hyacinths*, *Lilly-Aſphodels*, *Perſian Lillies*, *Star-Flowers*,

Flowers, *Crown Imperials*, *Bulbous Violets*, *Tulips* of all Sorts, *Molies*, *Martagons*, *Spider-Wort*, *Auricula's* or *Bear-Ears*, *Daffodils*, *Gentianella's*, *Meadow Saffron*, *Primroses*, *Oxslips*, *Wolf-Bane*, *Crocus's*, *Fritillaries*, *Campanella's*, &c. Other Flowers and Flower-Trees, Shurbs, &c. raised by Layers, are, *Pinks*, *Carnations*, *Gilliflowers*, *Roses*, *Jassemins*, *Woodbines*, *Virginian Bower*, *Shrub Spirea*, *Hipericum Frutex*, *Shrub Nightshade*, *St. John's Wort*, *Shrub Mallows*, *Spirea Frutex*. And to compleat the Catalogue of Flowers and Plants, increas'd by Slips, Cuttings, &c. there are the *Pomgranate-Tree*, *Southernwood*, *Arbor Vitæ*, *Rosemary*, *Sumach*, *Pipe-Tree*, *Campion*, *Marjoram*, *Lavender*, *Bastard Sena*, *Mastich*, *Trefoil*, *Nonsuch*, *Guelder Rose*, *Thyme*, *Campions*, *Dogs-Tooth*, *Sage*, &c. I come now to my particular Description of the several Flowers, and their Culture; and begin with the *Tulip*.

The TULIP.

The *Tulip*, which Historians tell you was originally but a Hedge-Flower, at this Time deservedly claims the Preference of all bulbous-rooted Flowers, and yields so great a Variety, that it would tire the Patience of the Reader to enumerate them; tho' in admiring their various Colours and excelling Beauties in the nice Collection of ingenious Florists, none can be satiated: But as their Glory is great, so they soon decay, not any of them continuing above ten Days in their full Lustre, without some artificial Shade for their Preservation, or the Weather's being more than ordinary kind.

There are three sorts of *Tulips*, in general, *viz.* the *Præcoces*, *Medias*, and *Serotines*, *to wit*, Early, Middle,

Middle, and Late-flowering *Tulips*. The Ground you plant them in, ought not to be too rich, for the Richneſs of the Earth cauſes them to run into dark and plain Colours; and ſome adviſe a natural Earth impoveriſh'd, in ſome Degree, with Sand, as agreeable; and where the Soil is too luxurious, you may abate it by laying a Bed of ſandy Earth, about the Thickneſs of your Finger below the Bulb, which will give a Check to the quick Vegetation of the Root: But the vulgar Field or Hazle Earth, with a ſmall Compound of Sand, is approv'd beyond any Soil whatſoever; and digging the Ground where your *Tulips* ſtood, is very beneficial to the Soil; ſome affirm it to be equal to a Change of Mould.

The Seaſon for Planting of *Tulips*, is the latter End of *September*, or Beginning of *October*, being taken up by the latter End of *June*, Beginning and latter End of *July*, about ſix Weeks or two Months after their Blowing; it being pernicious to let a *Tulip* ſtand too long after it has blown, by Reaſon it weakens the Root: Make the Beds to lodge them in, of freſh, light, ſandy, ſifted Earth; a Foot deep, and a Yard ſquare, will contain thirty Roots, being regularly diſpos'd, ſo as to have two Flowers of the ſame Colour together, and ſet three or four Inches deep, unleſs it be thoſe deſign'd for Seed, which it will be neceſſary to ſink two Inches lower. When you take up your *Tulip*-Roots, (the proper Time for doing whereof is when the Stalks are dry'd down and decay'd) lay them upon Papers in the Sun for the Benefit of drying, and afterwards remove them to Boxes, or a dry Room not expos'd to the Sun and Wind, and let due Care be taken that they do not moulder; and if any of them are in a languiſhing State, which may be diſcover'd by their being ſhrivel'd, they may be recover'd by being wrap'd up in Wool dipt in Sallet-Oil, and plac'd at an a-

greeable Diſtance from a moderate Fire; dry Sand, Soot and Turpentine are good Remedies for a diſeas'd Root in the Ground.

The greateſt Variety of *Tulips* are rais'd by Seeds gather'd in a dry Time in the Month of *July*, or thereabouts, according to the Seaſon. The only Direction neceſſary to know when it is ripe, is the opening of the Pods, which they will moſt certainly do, and the Stocks at the ſame Time wither: When you have cut the Stalks, tye up the Pods of each Sort ſeparately to the Bar of a Sunny Window, which will perfect the Ripening of the Seed; let them there remain 'till about the End of *September*, the Time of Sowing, and then ſeparate the good Seed from the Chaft; which do by putting the Seed into a Veſſel of Water; for that which ſinks is undoubtedly good, and fit to be choſen; and this may ſerve as a general Rule for the Election of all Sorts of Flower-Seeds, but is not to be experimented till juſt before Sowing. Theſe Seeds are to be ſown properly in Boxes, being about ſix Inches deep, fill'd four Inches full of the fineſt ſifted Mould, light and rich, and not too ſandy; and a little Watering will be convenient on the Approach of *March*; and I ſuppoſe I have no Reaſon to caution you not to ſow your Seed too thick. 'Twill be three or four Years at leaſt before the Seeds thus ſown, will begin to produce Flowers; but they are to be taken up annually in the ſame Manner as the *Tulip*, when the ſingle Leaves they produce are dry'd down or wither'd, and to be planted again the latter End of *Auguſt*; but on every freſh Planting, you muſt obſerve to increaſe the Richneſs of the Soil, tho' common Rubbiſh ſifted (Mr. *Bradley* tells you) has been experimented the beſt Soil for their firſt Plantation, to promote a fine Variegation in the Flower.

The

The ſmall Cions or Off-ſets of *Tulips* you may plant in a Bed by themſelves; and the often removing or tranſplanting of *Tulip*-Roots and their Off-ſets, into various Ground well dug and looſen'd, gives a great Increaſe, and no ſmall Variety of Colours; tho' the moſt ordinary Sort of *Tulips*, if the Earth be naturally good, may remain two Years in the Ground. For the Preſervation of your choice *Tulips*, when they begin to blow, you may erect Tilts of Cap-Paper on pretty ſtrong Hazle Rods, to be us'd for their Defence in the Night, and at other Times, for their Preſervation from Winds, Hail, and extream Heat. When you plant your Roots, ſtick into the Ground by them ſmall Sticks mark'd with the Numerical Letters; which Marks may be inſerted in a ſmall Book in Alphabetical Order, with the Addition of the Name of the Flower, ſo that you may readily find out every individual Flower, and be under no Difficulty to call them by their proper Names. The *Fritillary* is near of Kin to the *Tulip*; they are of a white, yellow, red, and dark Colour, and ſome of them checquer'd; from whence they are entitled *Checquer'd Tulips*. Their Seaſons and Management is not unlike that of the *Tulip*, only the dry Roots are to be interr'd about the Beginning of *Auguſt*.

The early *Tulips* flower in *March* and the Beginning of *April*; the middle Sort in *April* and the Beginning of *May*, and the late *Tulips* flower all the Month of *May*.

The CARNATION *and* GILLIEFLOWER.

Of theſe Flowers, there is no leſs Variety than of the *Tulip*, and they are the Pride of the Summer, as *Tulips* are the Glory of the Spring: They conſiſt chiefly

chiefly of these four Sorts; Red and White, Crimson and White, Purple and White, and Scarlet and White, and tho' the Colours are not many, they are variously compounded: The single Colours are but little esteem'd, the strip'd, fleak'd, or powder'd upon White and Blush, with darker or lighter Red, the Crimson, sadder or brighter Purple, deeper or paler Scarlet, are accounted the finest Colours. The choicest Flowers are as follows: Of the Red and White are, *Crown of Bohemia*, *Emperor*, *Charles the Second*, *Queen Catherine* Of Red and Blush, *William the Conqueror*. Of Crimson and White, *the Empress*, *the Countess*, and *Thisbe*. Of Purple and White, the *Solomon*, *Prince William*, *Purple-Imperial*, *Orlinans*, *Fair Helena*, *Glory of Worcester*. Of Scarlet and White, the *Giant*, *Mayor of London*, *Romulus*, *Fair Roxana*, *Florida*, *Paramour*. Of deep Clove-Colour and Black, *Pluto*. Of Scarlets, *Golden Grove*, *Prince and Princess of* Orange, the *Golden Fleece*. Of Blush, the *Aurora*, *Morning-Star*. Of Cloves, the *Giant Clove*, *Birtha*, *Astragon*. Of Purple, the *Wiggon*.

The Soil for these Flowers ought not to be either too stiff, or over-light; fresh Earth from Ground that hath lain a long Time untill'd, is the most agreeable common Soil: a very good Compost, is one Load of well consum'd mellow Earth, and two Load of sandy Loam meliorated and sifted; and the Earth of Mole-hills, being not long cast up, mix'd with a third Part of Cows-Dung or Sheeps-Dung, well digested and mellow'd, is a compound Soil, preferable to any, tho' rotten Tan, having lain three Months to sweeten, and being converted to Earth, adding to it four times the Quantity of Woodpile Earth, and the Rubbish of old Walls, or a little decay'd Lime, is esteem'd excellent: And Pigeons Dung laid

to the Roots of your *Gilliflowers*, effects a more early Blooming than uſual.

Carnations and *Gilliflowers* are propagated by Seeds, Layers, and Slips; but, as in the Caſe of *Tulips*, the Seeds afford the greateſt Variety of Colours, for they annually produce new Mixtures, I ſhall begin with the Layers. *June* and *July* are the beſt Months for laying your Flowers, and ſome Part of *Auguſt* will do tolerably well. The Method in doing whereof, is this; firſt trim the Slip you intend to lay, being ſtrong and well choſen; then with a ſharp Pen-knife cut a Tongue, half through from one of the middle Joints under the Slip, to the next Joint towards you, beginning next the Root, and cutting upwards, looſen the Earth under it, and with a ſmall hooked Stick force it down, that the Tongue or Slit may open, and the End of the Slip point upwards; cover it with Earth, and water it, which muſt be repeated as the Seaſon requires. Your Layers being ſo manag'd, about a Month after, or at fartheſt by the Beginning of *September*, they will have taken Root, when you may venture to take them off with ſome of the adhering Earth, and plant them in Pots, or other Places prepar'd for them; but if they ſhould not then have taken Root, as it may ſometimes happen, you are to new lay them, and let them remain 'till the Spring. Plant not your Layers too deep, a deep Plantation being always deſtructive; and many Perſons have purchas'd this Experience at a dear Rate.

The Time of ſlipping this Flower, is in the Months of *February* and *March*; and ſome Writers affirm both Spring and Autumn to be good Seaſons for making out Roots; in the latter, the Slip being ſet in Time, to take Root before the ſeverity of the Winter approaches; and the former, the Slip ſet in

the

the Spring, having Time to take Root before the Sun rises to that Strength to omit violent Heats. The Slip chosen, ought not to be twisted in the Bottom, as many Persons practise; it need only be cut off at the Joint.

The Season for sowing the Seeds of this Flower, is *April*, after a Shower of Rain: Let them be sown thin, on a Bed of good fresh Earth, which receives the Benefit of the Morning and Evening Sun, but shaded at other Times of the Day, and the Ashes of old decay'd *Gilliflowers*, sifted thin over them, will cause a speedy Vegetation; for want of which, you are to sift other fine Earth over them. In *August* or *September* the Plants will be arriv'd to a proper Growth for their planting abroad, when they are to be carefully remov'd into Beds of very good Soil, and there remain 'till they flower, which may be the Year after. The Seeds which produce the greatest Variety of Flowers, are the strip'd Tawnies, tho' the greatest Diversity of double Flowers are rais'd from the Seeds of such double Flowers.

When you take up your Layers, either in *September* or *March*, (the proper Times for doing it) cut off all the dead Leaves, and the Tops which are too long, and take them up with Earth about the Roots; then set them in your Pots with the Earth before prescrib'd, and place them for some Time in the Shade, giving a gentile Watering, and they'll grow to your Satisfaction; when they may be remov'd into the Morning Sun, the only Sun these Flowers delight in. In the Watering observe to use Water that hath stood at least two Days in some Vessel a Sunning; to which you are to put some Sheeps Dung, or Cows-Dung, to enrich it; for these fine Plants, and for your large Plants, that require Heat, Horse-Dung will serve.

Rivers

Rivers that receive much Soil, is very good Wa-
er for all forts of Plants; but Well-water and Ri-
er-water, that runs quick on sharp Gravel, are by
o Means good for watering; neither is your stinking
Ditch-water, or Rain-water, that has stood too long.
nd in the Winter, 'till *April*, water in the Mor-
ing, and after that Time, on the Increase of the
un, it is convenient to water in the Evening; which
Method is to be observed in watering all Manner of
lowers.

Your Flowers and Layers thus manag'd, when
hey begin to shoot up, if any of them happen to
ave but one Stem or Stalk without any Layer, it is
rudence to cut off the Spindle, that it may sprout
new, for the Preservation of the Root; which will
otherwise be in inevitable Danger, especially if you
uffer it to blow. And when your Flowers begin
o spindle, nip off all but one or two of the strongest
t each Root, and as they come to bud for flowering,
ip off the Buds likewise, all but three or four that
re best dispos'd; by which Means your Flowers
will not only be the fairer, but the more good Lay-
rs gain'd: And as the Spindels increase in Height,
or their Support, you are to tye them to small Rods
nade for that Purpose; some few whereof, for your
est Flowers, may be painted of a Green Colour,
with round Knobs gilded at the Top, which will be
ery ornamental. When any of these Flowers in
our Pots die, it is necessary to empty out the old
Earth, and to repleniſh your Pots with new Mould,
or the Nourishment will be drawn out and spent
y the first Flower: And once in two Years at least,
he Earth about *Gilliflowers*, ought to be renew-
d.

Three or four Layers are a sufficient Number for
ny one Root; more would draw away too much

of the Nouriture; and if you happen to have any Flowers that are broken, you may graft others on them that are more choice, in the moſt woody part of the Stalk. Intemperate Heat is prejudicial to *Gilliflowers*, for they delight in an open Air; tho' windy Weather, and driving Rains are very pernicious; to prevent the Conſequencës whereof, a Pit or Place dug in a round Form, and ſunk like to a little Pond, planted round the Edges at Top with ſmall Pyramid *Eughs*, is not only a convenient, but ornamental Preſervatory: And your Flower-Pots ought to have Holes in the Bottom, to let out the ſuperfluous Moiſture, which would otherwiſe annoy your Flowers.

Theſe Flowers blow in *July* and *Auguſt*, and ſome early Buds may yield Flowers in *June*, as the latter Buds may not flower 'till *September*. The eight *Dutch* Flowers, which are the nobler Sort of them, ſeldom produce Seed here; but when they do, you are to preſerve it dry 'till it is ripe, then gather it, and lay it by in the Husk, until the Spring; and the latter End of *May* is your proper Seaſon for ſowing it.

The *Pink* and *Sweet-William* are near of Kin to the old *Engliſh Carnation*, and are raiſed by Slips like unto the *Carnation*. The common red ſingle *Pink* makes a moſt beautiful Edging to Borders; and when in Flower, its odorous Scent perfumes the whole Garden; or they make a very agreeable Figure being planted in the Borders in Spots or Tufts.

The AURICULA's, &c.

Auricula's or *Bear's-Ears*, are the moſt beautiful Ornaments of the Spring; and, for their Size, are the greateſt Rarities in *Flora*'s Cabinet; they are divided

divided into theſe five Sorts of Plants, the *ſingle Sort, ſelf-colour'd, ſingle ſtrip'd, double ſelf-colour'd,* and *double ſtrip'd Flowers*; the fineſt Colours are the *Purple ſtrip'd, Liver-Colour* and *Yellow, Sky-Colour* and *White*, the *double White, double Yellow*, the *double ſtrip'd Crimſon* and *White*, the large *double Purple* and *Yellow*; the two laſt whereof, I am inform'd, have been ſold from five to twenty Pounds each Plant; and the *Windſor Auricula* is eſteem'd by ſome the moſt ſplendid of all the reſt.

Theſe flowers delight in a rich Soil well ſhaded, but by no Means under Trees: The beſt Compoſt for them, is decay'd Neats-Dung, Flood or Brook Sands, and Willow-Earth mix'd and ſifted to a fine Compoſition of Mould. Your Earth being prepar'd, I come to the Seeds by which they are rais'd: You are firſt to prepare Boxes of eight or ten Inches deep, to receive your Earth, (which are to be got ready the latter End of *Auguſt*;) and about the firſt of *September* is the proper ſeaſon for ſowing, wherein let your Earth be a finger thick at the Top, at leaſt, of fine ſifted Willow-Earth, or dry'd Cow Dung beaten ſmall, and mix'd with light Earth; and ſow your Seeds mix'd with Wood-Aſhes; and when ſown, let the Seed be covered with the ſame Mixture of Earth ſifted thereon; or you may ſow your Seeds without covering them with any Earth, waiting for a ſmall drizling Rain, which will drive the Seeds as far as is neceſſary into the fine ſifted Mould, and very much facilitate the Vegitation; but you are to take this Caution with you at the ſame Time, that the Seed will thrive better with too much Covering, than none at all. Your Seeds thus ſown, let them ſtand all the Winter in a free Air, and in the Sun, 'till the Beginning of *April*, when they are to be remov'd into the Shade, for then they'll begin to

spring, and the least Heat of the Sun destroys them: Let them continue so posited 'till they arrive to a considerable Bigness for their transplanting, giving them gentle Waterings: When you transplant them, be sure let the Ground be rich and good; and they may be set from half a Foot to a Foot asunder. They will yield Flowers some the *August* following, others not 'till the next succeeding Year.

The best Flowers are set in Pots or Boxes, that they may be shifted in the Summer into the shade, and in the Winter into the Sun; they delight in the open Air, and endure the Cold of the Winter very well, (but not the wet Weather) being often removed, once in two Years at least, if not every Year, and the Ground enrich'd, otherwise they will decay; and the *strip'd* and *double* sorts are to be removed oftener. These Flowers are likewise increas'd by taking them up towards the latter End of *August*, and parting the Roots, planting them again presently in good fine sifted Earth, and at a pretty good Distance; and this Method of Propagation gives less Trouble than that of sowing the Seeds.

They flower in *April* or *May*, and some of them again in the Month of *August*; but if they offer to blow late in the Autumn, it is prudent to crop the Buds, which will cause fairer Flowers in the Spring. There are some *Cowslips* worthy Place in your Garden, for which the same Management will serve as for the *Auricula*; and the best Sort of *Primrose*, *viz.* the *double Scarlets*, are likewise entertain'd for their early Culture in the Spring.

The ANEMONE.

This Flower is call'd the *Wind-Flower*, it being observable that it never opens but when the Wind blows,

blows, and is one of the greateſt Beauties in the Seaſon that it flowers. There are great Variety of theſe Flowers, tho' they are commonly mark'd with but two Diſtinctions, *Anemone Latifolia*, the double *Anemone* with broad Leaves; and the *Anemone Tanuifolia*, the ſingle *Anemone* with narrow Leaves; whereof the latter are more valu'd than the former. The Soil agreeable to *Anemones*, is a rich ſandy loamy Earth, manur'd with Neats-Dung and a little Lime well digeſted; to which you may add ſome well-rotted Sheeps-Dung, and the whole is to be ſifted thro' a Wire Riddle. About the latter End of *September*, or Beginning of *October*, you are to plant abroad your *Latifolia*'s in a Bed made a Foot deep, rather ſhady than too much expos'd to the Sun, about half a Foot aſunder, and three Inches deep; and about a Month after your *Tanuifolia's* are to be planted. If you are fond of having them more early than uſual, and conſequently the greater Rarity, you are to plant them ſooner, and to ſecure them with Mats from the Cold and Froſts, which are very pernicious, and to give them all Aſſiſtances of the Sun and warm Rains; and if you are deſirous to have them late, you may keep ſome of them out of the Ground until *February*, and plant them at that Time.

The broad-leav'd *Anemones* will come up before Winter, and the narrow Sorts about the End of *February*, ſooner or later, according to the Seaſonableneſs of the Spring. If *March* and *April* prove dry Seaſons, they will require frequent gentle Waterings, but much Wet is very deſtructive; and an artificial Shade erected for the hotteſt Time of the Day, in a Seaſon of Heat, will advantage the young Flowers. A thin Layer of rotten Sally-Wood, or Willow-Earth, very much forwards the Growth of *Anemone* Roots, being put under them at their firſt Tranſplanting;

ting; and steeping the Roots in warm Water, will contribute to their Vegetation. About the End of *June*, and in *July*, is the Season for taking up the Roots, or sooner, if the green Leaves turn yellow before that Time: Preserve the Roots in a cool dry Place, 'till the Season comes for their Plantation; or you may keep them in Sand for a Month, and afterwards put them in Papers, and keep them till the Time of their Interment.

The Seed of these Flowers will be ready to be gather'd about *May*; and the *Latifolia* Seed being sown in proper Earth, yields a pretty Variety. The Time of sowing *Anemone* Seeds (which you may do either in Beds or Boxes) is the Month of *July*. When you sow them, take Care that they be not too thin; and after they are sown, you are to sift Earth upon them about half an Inch in Thickness, and water them a little, which you are to repeat as there may be Occasion, and as Discretion shall lead you. A Month after they are come up, sift more Earth over them, and cover them with Mats or Pease-Haum, supported and born up, all the ensuing Winter; the *August* following, you may remove them into convenient Beds of well prepar'd fresh Earth, there to remain 'till they bear Flowers, which some will produce the Year following, but not all of them 'till the third or fourth Year.

Anemones usually flower in *March*, *April*, and *May*.

The RANUNCULUS.

The *Ranunculus*, or *Crow-foot*, is no less beautiful than the *Anemone*, and carries such a Lustre and Richness in the Colour, that it is by no Flower exceeded: And as it bears a near Resemblance to the *Anemone*, so it differs very little in the Ordering and Manage-

Management, only this requires a richer Soil. These Flowers are increas'd by parting the Roots about *Midsummer*, when the Stalks are dry; and they are to be taken up, and the Roots dry'd, and kept in Papers or Boxes until *December* or *January*; at which Time they are to be planted in rich sandy Earth, about four or five Inches deep; and when they are come up, and ready to flower, they are to have frequent Waterings with Pond-Water, or other Water that hath stood in the Sun for a Time. For the more effectual Propagation of these Flowers, Earth made by old Thatch, or Straw that hath lain a sufficient Time to rot and decay, being laid six or eight Inches under the Surface of the Ground, and fill'd up with fine rich Earth, will produce an extraordinary Increase.

If they are planted early in the Winter, you must take great Care to defend them from the sharp Winds and Frosts, for they are more tender than the *Anemone*; and their Leaves once nipt by the Frost, (which will appear by their brown Colour) will soon perish, and with them the Root; but Glasses will preserve them, being taken off once a Day, and a gentle Watering given at the same Time.

These Flowers may be raised from Seeds, manag'd like unto the *Anemonies*; and they flower in *April* and *May*.

The HYACINTH and STAR-FLOWER.

The *Hyacinth*, tho' not a very beautiful Flower, helps to make up the Variety of the Spring, and is estimable before the more excellent Flowers make their Appearance; there are many sorts of them, the chief whereof are, the *Celestial*, the *white and blush*

bluſh ſtarry Hyacinth, the *fair double blue*, *and the double white Oriental*, and the great *Indian Tube-roſe-rooted Hyacinth*, which produces a long Stalk handſomely ornamented with Leaves and fair Flowers at Top, and is generally planted in Pots, and thought worthy a Place in the Conſervatory. This laſt *Hyacinth*, Mr. *Woolridge* obſerves, ought to be taken up annually in *April*, and the Roots carefully parted, and replanted in a Pot, having rich Earth in the Bottom, the middle Part for the Root natural freſh Earth, and the Top fill'd up with the ſame rich Earth as the Bottom. When the Flower is thus planted, 'tis a very good Way to ſink the Pot into a Hot-Bed, the Heat whereof is ſomewhat abated, and let it there continue 'till the Roots begin to ſpring; then take it out, and place it under a *South* Wall, giving it a Watering in dry Weather, and Houſing it in *September*.

Moſt of theſe Flowers produce Seeds; and being ſown in the ſame Manner as *Tulip*-Seeds, will afford new Diverſities; the *blue*, *white*, and *bluſh ſtarry Hyacinth of Peru*, and the *blue Lilly-leav'd ſtarry Hyacinth*, and ſeveral others of them, that adorn your Garden, are to be remov'd in *Auguſt*, and may be propagated by Off-ſets, being taken up and replanted in *Auguſt*; wherein you are to take Notice, that they will not keep long out of the Ground. The *Hyacinths* flower from the latter End of *February*, until *May*, as there are many Kinds of them, ſome early and ſome later, and ſome will continue to flower until *Auguſt*

Tho' there is no ſmall Variety of Colours in this Flower, yet Art will contribute to it, and in an Inſtant alter Nature; if you but dip a Pencil in Spirit of Vitriol, and ſtroak it along the Leaves of the Purple-colour'd Flowers, it will turn them to a rich

Scarlet

Scarlet Colour. *Tulips*, *Crocus's*, *Iris's*, &c. of a Purple Colour may be so alter'd, but no other Colours besides Purple; and the Leaves so serv'd, will wither in a Day's Time.

The *Star-Flowers* are near of Kin unto the *Hyacinths*; the valuable Sorts whereof, are, the *Star-Flower of Naples*, which flowers in *April*; the *Star-Flower of Arabia*, which flowers in *May*; the great white *Bethlehem Star-Flower*, which flowers in *June*; and the *Æthiopian Star-Flower*, which flowers in *August*. These Flowers are increas'd by Roots taken up indifferently dry, and planted again in *September*; and the *Arabian* and *Æthiopian Stars* coming from hot Countries, are to be planted in rich warm Earth, and secur'd from the Severity of the Winter.

The NARCISSUS, JONQUIL, &c.

This is a very common Flower; but considering its great Variety, bright Colour, and early Flowering, the better Kinds of them are worthily entertain'd in the Garden, especially in Avenues, Groves, Our-Hedges, and other Shades, which they much delight in; the double *French Narcissus*, or *Daffodil*, and double Whites are the best Sorts; others are the double yellow *Daffodil*, the great yellow *Daffodil* of *Africa*, and the *Turkey Daffodil*, the double *Jonquil*, or *Rush Daffodil*, the *Great Sea Daffodil*; then there's the *Indian Daffodil*, which bears many Flowers of various Colours on one Stalk. These Flowers are of a hardy Nature, and multiply much, in any Ground, tho' you ought to plant them in tolerable good Earth, freed from the Winter's Annoyance; most of them are to be taken up in *June* or *July*; and the principal Roots worthy Preservation,

to be kept dry 'till *September*, when they are to be interr'd. They are propagated (all, except those whose Stocks produce several Flowers) by Seeds, which will produce great Varieties. You are to make your Choice out of the Seeds of the best single Flowers, (for the double bear no Seed) and to sow it in *September*, in a Place where it may be uninterrupted, and continue without Removal two or three Years; at the Expiration of which Time, the Plants are to be taken up in the Month of *June*, and presently replanted in good Ground, at a proper Distance. The Seed of the *Sea-Daffodil* being sown, may remain ten Years at least unremov'd. The *Daffodils* having several Flowers on one Stalk, are, for the most part, increas'd by Off-sets, and are not to be often taken up, for they well endure the Cold.

The *Junquils* are of the same Kind with the *Daffodil*, and flower much about the same Time with them. The bulbous *Violet*, or *Snow-Drop*, is reckon'd amongst the *Daffodils*, and is esteem'd for its early Blowing in *January*.

The *Daffodils* flower about the same Time as the *Hyacinth*, *viz.* from the End of *February* to the Beginning of *May*.

The IRIS, *or* FLOWER-DE-LUCE.

Iris, the *Flower-de-luce*, of which there are two Sorts, the bulbous and tuberous-rooted ones, (the former whereof are distinguish'd into *Latifolia's* and *Tanuifolia's*, *viz.* broad and narrow leav'd) contain no small Variety of Colours, and are inferiour in Beauty to few bulbous-rooted Flowers, except the *Tulip*; They are divided into three capital Colours, *to wit*, the *Blues*, the *Whites*, and the *Purples*; and they all flower in Succession; the best Flowers are the great

great *bulbous Iris*, the *blue-ſtrip'd*, and the *great white*: The *white tuberous Roots* are not ſo various as the *bulbous*, but afford many curious Flowers; the beſt whereof is the *Toad-Flag*; and *bluſh-colour'd dwarf Flower-de-luce* is a Flower eſteem'd. The Roots of theſe Flowers yearly loſe their Fibres, and are to be taken out of the Ground as ſoon as the Leaves begin to wither, before new Fibres ſhoot forth, which they will do ſoon after the Stalk is dry'd down, and be then unfit to be ſtir'd: And when thus taken up, keep them dry 'till *Auguſt*, and then ſet them again in Beds prepar'd of good freſh ſifted Earth, not too rich, (tho' very good) and expos'd to the Sun, but not too hot, (to the Morning Sun only, and not to the *South-Weſt* Sun; for if the Ground be over rank, or in a very hot Poſition, the Flowers will ſoon conſume. You may defer replanting the *tuberous Iris* 'till *September* or *October*; and freſh Earth, mix'd with well-rotted Wood-Pile Earth, is an excellent Soil for them; and ſome Perſons take up theſe Flowers in *June*, and keep them dry 'till late in *October*, which hath been obſerv'd makes them the more apt to bear Flowers; but ſome of theſe Flowers, particularly the *Flags*, may continue in the Ground ſeveral Years without Removal.

For producing Varieties, the beſt Method is to ſow the Seeds, tho' they may be increas'd by parting the Roots; and notwithſtanding the *Eaſt* Sun is the moſt agreeable, and a good Soil the moſt proper, they'll grow (eſpecially the common Sorts of them) in almoſt any Poſition, and any Kind of Ground. The common Kinds of *tuberous-rooted Flower-de-luces* are not fit for a fine Garden, they being too luxuriant for the beſt Ground.

Some of these flower in *April*, others more numerous in *May*, many in *June*, and some in *July*. If any Wet happens to fall upon these Flowers, 'tis necessary to shake it off expeditiously, otherwise the Leaves of the Flower will decay.

The LILLY, *and* LILLY *of the Valley.*

The *Lilly* is a Flower esteem'd in the earliest of Times; about the Time of our Saviour, it was in great Reputation, no Flower being then more in Request in the choicest Gardens, except the *Rose*; and there is no Flower of that transcendant Whiteness as the *Lilly*: There are three Sorts of *Lillies*; the *Red*, the *Yellow*, and the *White*; whereof the *Yellow* is the most estimable: Then there's the *Persian Lilly*, the *Crown-Imperial* for the Spring, and several sorts of *Martagons*, but they are of little Value. *Lillies* are increas'd by Off-sets, being parted from the principal Roots soon after the Stalks are wither'd. The Roots ought to be set five Inches in the Earth, and to be annually uncover'd to the Bottom, without stirring the Fibres, when the young Roots are to be parted from them, and then to be fill'd up and cover'd with new rich Earth. These Flowers like not often removing, and they flower in *June*.

The *Lilly of the Valley*, altho' wild in many Places, (as many valuable Plants are in one Place or other) is yet entertain'd in many fine Gardens, being, for its rich Scent, almost equal to the *Orange*-Flower. It delights in shady Ground, and is easily propagated from Plants.

The PEONY.

This is a common Flower, but yields the faireſt and moſt double Bloſſom of any, and is very becoming in your Flower-Pots or Chimneys: It contains two Sexes, Male and Female; the Male is ſingle, and the Flower commonly of a Purple Red, and are but of one Sort; but the Females are many, ſome ſingle, and great Numbers double. The beſt Kinds of *Peonies* are the *double Purple*, the *double Carnation Peony*, and the *double Bluſh* or *white Peony*. Theſe *double Peonies* are admitted into the fine Gardens, and the *ſingle ones* are turn'd over to the Herbs and Phyſick Gardens, for the ſpecifick Virtues of their Roots.

Theſe Flowers are increas'd by taking them up in *September* or *October*, and parting the Roots, at the ſame Time planting them: But ſome Perſons have obſerv'd, that none of the Roots will grow, only ſuch as have Sprouts or Buds at the End. They may be propagated by Seed, but it is a very dilatory Way, and the *double ones* ſeldom bring Seeds to Perfection. They flower in *May*.

The STOCK-GILLIFLOWER, *and* WALL-FLOWERS.

The *Stock-Gilliflower* is a Flower of the greateſt Fragrancy, and in Scent excell'd by none; the double Sort in Beauty not inferior to many, and containing (tho' ſmall, yet) an agreeable Variety. They delight, for the moſt part, in barren Ground, and are rais'd either by Seeds, or by Slips and Layers. The double Flowers yield no Seed, ſo that you are left to make your Choice from the ſingle

Flowers;

Flowers; the best whereof for this Purpose, is the *White-single*, the *single strip'd* with *White*, or the *five-leav'd Flower*, having one Leaf beyond the *single*; which is an Argument that Nature hath set one Step forward in altering their ordinary Kind from *single* to *double*; and which is a general Rule in Respect to many other Flowers, for the Election of Seeds, for the Propagation of the double Kinds. These Seeds being sown at the Full of the Moon in *April*, on a Bed of good fine Earth, not too thick, commonly produce double Flowers. When they are grown about four Inches in Height, take them up about the Full of the Moon in a rainy Season, if you can have it, and plant them abroad into barren Earth, or they may be planted in the same Earth made barren with Sand, (and Street-Dirt is esteem'd very good) and water and shade them: This Labour you must reiterate twice, each Time being at the Full of the Moon, before the Winter approaches, to prevent their running to stalk, and to strengthen them against the Winter; and you may venture to remove them three Times in the Winter, the three successive Full Moons, which will retard their springing, and cause a beautiful spreading. In the Spring, when you may discover, by the Largeness of the Buds, which will be double, you are to remove them carefully, by taking them up with a Clod of Earth about them, and set them in good Earth in your Flower-Garden, in a Place well shaded, where they are to remain all the Summer; and being well water'd, will produce good Flowers: Those that are single, must be permitted to stand for the bearing of Seed; and unless the Seed be yearly sown, you cannot preserve the Kinds.

After they have born Flowers, they are apt to die; and the only Method to preserve them, is by

Slips

Slips or Cuttings ſet in *March*; chooſe ſuch as are not ſpir'd for Blowing, cut them from the Stock, and ſlit the End in three or four Places about half an Inch, peeling away the Rind-Bark as far as the ſlit, and taking away the inward Wood: Then ſet this ſlip, with the Rind ſpread every Way, about two or three Inches deep; water it, and ſhade it until it hath taken Root: By this Means you may preſerve your double Stocks with the greateſt Certainty, and without the Trouble of Sowing, or two Years Patience. They may be alſo laid as other Plants are, but then they are to be kept ſecure from violent Colds. Often removing theſe Flowers into different Soils, will contribute to their Worth and Duration: And Stocks raiſed from Seeds will abide the ſecond Winter, provided it be mild, and they are well defended; and if you take away the blownig Sprigs, the preceeding Autumn, it will much farther their Duration.

Theſe Flowers begin to flower in *April*, flouriſh in *May*, and continue in Bloom 'till the nipping Froſts check them.

Wall-Flowers are increas'd and continued by Layers, or by Slips ſet in *March*, as the *Stock-Gilliflowers*, and are to be planted againſt a *South* Wall, and be ſecured from Froſts, and the ſeverity of Winter, eſpecially the *double White*, the *great Single*, *double Yellow*, and *bloody Wall-Flower*.

The SAFFRON-FLOWER, CROCUS, &c.

There are ſeveral ſorts of *Saffron-Flowers*, under the two Denominations of *Colchicums*, *viz.* the *Meadow Saffrons* and *Crocus's*; their principal Colours are the *ſtrip'd White*, *Yellow* and *Purple*. Theſe Flowers being planted on the Edges of your Borders,

Borders, particularly the *Cloth of Gold Crocus*, make a delightful Shew in the Spring, before your other Flowers come to Perfection. And the *Colchicums*, particularly the *Colchicum Chio*, and the *double Colchicum*, adorn your Garden in the Autumn, when most of your other Flowers have loſt their Beauty. The Spring *Saffron-Flower*, or *Crocus* is to be taken up when the Leaves are wither'd, and kept dry 'till *October*, when they are to be planted. And the Autumnal *Saffron-Flowers*, or *Colchicums*, being taken up as the others, are to be ſet about the End of *Auguſt*, and ſome of them will flower within a Month after planted. They may be increas'd either by Seeds or the Roots, but the Root is the moſt preferable Way. The Seeds are to be ſown in *September*, in light and rich Ground; and the Year after, (in or about *July*) they are to be tranſplanted into ſuch like Soil as they were ſown in. Theſe Flowers are very apt for Vegetation, altho' your Ground be but ordinary; and if you permit them to ſtand more than one Year, you'll find the better Increaſe.

The early Sort of *Crocus's* flower in *February* and *March*, and the later Sort in *Septemeber* or *October*.

The CYCLAMEN.

Cyclamen, or *Sow-bread*, for its odoriferous Bloſſoms, is entertain'd in the choiceſt Gardens. There are three Sorts of theſe Flowers, the Spring *Cyclamen*, which flowers in *April* or *May*; the Summer *Cyclamen*, which flowers in *June* or *July*; and the Autumn *Cyclamen*, which flowereth in *Auguſt* and *September*; but the Spring *Cyclamens* are the moſt valuable. The Flower is commonly of a Purple

Colour;

Colour; they are not often mov'd; and when you transplant them, do it in *June* or *July*. They are propagated by Seeds sown soon after ripe, in good light Earth in Pots or Boxes, and cover'd with Earth near an Inch thick; after they are sprung up, and the Leaves wither'd, add some more of the same Earth to them; cover them from the Frost the first Winter, and after the second Year remove them to proper Places for their standing to flower, wherein let them be set at convenient Distances, about nine Inches asunder.

The HEPATICA.

This Flower, commonly call'd *Liverwort*, is one of the prettiest Beauties of the Spring. There are two Sorts of *Hepatica's*, the single and the double, whereof the double and the white are eligable. They are increas'd by parting the Roots, or by sowing the Seed in Willow-Earth, some Time in *August*, in Cases or Beds least expos'd to the cold Winds or Frost. They must be planted forth in a rich well dung'd Soil. These Flowers are in their Glory in *March*.

CARDINALS FLOWER.

The *Cardinals Flower* is a Pot-Flower, and very tender: It is commonly planted in good rich light Earth; and on the Approach of the Winter, for its Preservation, you may place the Pot under a *South*-Wall, into the Earth three Inches deeper than the Top of the Pot, and then cloath the Top with dry Moss, and cover the whole with a Glass, which is to be taken off in warm Days, and in gentile Showers, to refresh the Roots; and in *April* you may take the Pot out of the Ground, and expose the Flower. These Flowers are increas'd by parting the

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Roots about *September*; and they flower from the Beginning of *June* 'till *August*.

The LARKS-HEEL, *or* LARKS-SPUR.

The *Rose Lark-Spurs* are very pretty Flowers, and add to the Varieties of *July* and *August*, or earlier, if the Seed be sown before Winter, and carefully defended from the most severe Frosts. The common Season for their sowing is the Beginning of *April*. And you may have a Supply of these Annuals without the trouble of sowing, by permitting the Seeds of the Flowers to drop, which will come up the ensuing Spring.

The best of these Flowers will degenerate, being often sown in one Sort of Ground.

The MOLY, &c.

There are several Sorts of these Flowers, as the *Indian Moly*, the *great Moly of Homer*, the *yellow Moly*, the *Moly of Hungary*, the *Spanish Purple Moly*, the *sweet Moly of Montpelier*, and some others. These *Molies* bear Starlike Flowers, and make an agreeable Mixture with others in your Flower-Pots and Chimneys. They are increas'd by the Roots, which may be taken up when the Stalks are dry, but they don't like to be often remov'd. These Flowers are to be preserv'd more for Variety, than for their Smell or Beauty, and will last long in Flower-Pots, with frequent Waterings. They flower in *May* and *June*.

The *Asphodels* also bear a Star-like Flower, and are increas'd by taking them up once in two or three Years, and parting the Roots, when the Stalk is dry, and then quickly planting them in Order again; and *August* is the

the beſt Time to tranſplant them. Theſe Flowers blow in *May* and *June*.

The AMARANTHUS.

The *Amaranthus*, or *Princes Feather*, (the beſt whereof is the great Purple) is a fine delicate Plant, bearing curious Tufts of ſeveral Colours, like unto Silks dy'd in Grain, Theſe Flowers love a light and rank Soil; they are rais'd by Seeds ſown in a Hot-Bed in *March* or *April*, and kept under Glaſſes in the hotteſt Part of your Garden, for the firſt Froſt deſtroys them; and if you remove them, do it when they are grown to a proper Strength, and from one Hot-Bed to another, taking them up with Earth about them, and then tranſplant them, the Beginning of *May*, into good Earth, well expos'd to the Sun; you'll have your Flowers the ſooner, and the Seeds the better. They are valu'd as they ſerve to ſupply the Vacancy of other Flowers in your empty Beds of *Tulips*, *&c.* before their time of replanting, and are in their full Beauty in *Auguſt*.

The NONSUCH, *or Flower of* BRISTOL.

This is a hardy Flower, and proſpers beſt in poor Ground, for hot Ground, or Ground over rank, it will not thrive in. This Flower is of long Duration, and is increas'd by taking young Plants from the old Roots at the latter End of *March*, when they ſpring forth with many Heads, and each of them divided with a part of the Root, will grow, and ſoon come to bear Flowers: And the Seeds of theſe Flowers, ſown as *Auricula's Seeds*, will produce new Varieties. They flower in *June* or *July*. *Campions* are propagated by Slips taken from the

old Roots in *August* or *September*, when they are to be planted yearly, or you'll be in Danger of losing the Kind.

The MARVEL *of* PREU.

These Flowers (by some call'd the *Flowers of the Night*) have their Name from the wonderful Variety of Flowers on the same Root. They are propagated by Seeds collected from the several Sorts you would have, sown on a hot Bed, in the Beginning of *April*; from whence they are to be remov'd into rich Earth, where they may have the Benefit of the Sun. If they do not flower the first Year, enrich the Ground with Horse-Litter or Dung, before the Frosts commence, and let them continue so cover'd with the Dung all the Winter; they will flower the sooner the ensuing Year. The Roots of these Flowers are to be taken up at the Beginning of the Winter, after they have done flowering, and kept dry in a Box of Wool, and to be set again in good Mould in *March*. This Flower blows from *July* and *August*, until the coming of the cold frosty Mornings, and opens in the Night like the *Bindweed*, and in the Day shrinks in, on the Approach of the Sun. The *Bindweed* is a small blue Flower, which twines to Sticks about half a Yard high.

The COLUMBINE.

This Flower is acceptable in the Florist's Garden, for its Variety. It is raised by Seed sown in the Nursery in the Month of *April*; from whence you may remove your choice Plants to your Garden, and they'll yield Flowers the next Year in *May*. The Roots will continue in good Order three or four

four Years; againſt which Time you ought to have a freſh Supply.

The ORCHIS, *or the* BEE-FLOWER.

The *Satyrions*, *Bee-flowers*, or *Gnat-flowers*, are ſome of them beautiful Flowers, tho' taken out of the Fields and Meadows; and the more remote they are fix'd from the Place of their Extraction, the more beautiful they grow. They are very tender, ſo that great Care muſt be taken in tranſplanting them; the beſt Method is to take them up Earth and all, unleſs they are dry, and to ſet them in ſome ſhady barren Part of your Garden, for they will not live in a rich hot Soil. In the Spring, clip the Graſs low with Sciſſars, leaving the Flowers, which will be in their Proſperity in *May*.

The NESTERTIAN.

The *Neſtertians* are raiſed from Seed ſown on a Hot-Bed in *March*; and when the Heat of the Hot-Bed abateth, and the Plants are arriv'd to ſome Strength, they are to be remov'd with ſome of the ſame Mould about the Roots, to a ſecond Hot-Bed; and in *May* they are to be tranſplanted in good Ground well expoſed to the Sun, where they are to remain until they flower, which will be in *September*, and 'till they bear Seed.

The HOLLY-HOCK.

The double Sorts of theſe Flowers are very ornamental, being of various Colours; the beſt whereof is the dark-colour'd *Holly-Hock*. Theſe Flowers are propagated by Seeds, and flower the next Year after ſown,

sown; in the Interim they are to be remov'd in *August* or *September*, from your Seminary, into their proper Places of Vegetation. The agreeable Situation for these Flowers, is under some coarse Wall, which they'll fill handsomely, or any other Place shelter'd from the Winds. The *Holly-Hock* far exceeds the *Poppy* for Duration; but there is no Flower can be more glorious than the *Poppy*, where it well scented and lasting.

The DOG'S-TOOTH VIOLET.

The *Dog's-Tooth* with a yellow Flower is deservedly entertain'd by our Florists, but very difficult to be obtain'd, and not to be propagated in this Country. They are planted in a good fresh natural Soil not dung'd, about the Middle of *August*; it is also prudent not to keep them long out of the Ground, and to defend them from Rains, (which would endanger rotting them) for a Fortnight at least after they are set.

The SNAP-DRAGON.

The *Snap-Dragon* is receiv'd in Gardens, by reason its flowering is of long Duration. It will grow in any Place, as on Walls, *&c.* and is raised by Seeds which are ripe in *August*, sown in good fine Earth, or by Slips set in *May* or *June*, but will not blow 'till the second Year. It flowers in *May* and *June*, and is only useful for Chimneys and Flower-Pots.

The SUN-FLOWER.

The *Sun-Flower* grows very tall, and therefore is most fit for Pots. It is rais'd annually from Seed

sown

fown in good rank Mould, well expos'd to the Sun, in *April.* This Flower thrives beſt under a warm Wall.

The CROWN-IMPERIAL.

A moſt ſtately and graceful Plant, bearing a Flower like unto the *Lilly*; and the double Sort, particularly the Orange-colour'd, and yellow, ſhew finely intermix'd in the Middle of a Flower-Pot. Theſe Flowers are commonly increas'd by Off-ſets that yearly ſpring from the old Roots, which are to be taken up in *June*, when the Stalks are dry, and replanted in *Auguſt.* But they may be propagated by Seed; and the Seeds of the yellow, when attainable, give the greateſt Expectations of new Varieties.

The RED SATTIN-FLOWER.

This Flower is call'd the *French Honey-Suckle*, and hath many large Stalks; the Joints whereof produce ſmaller Stalks, which afford many Flowers, ſome of a red ſhining Colour, and ſome white; which laſt are moſt eſteem'd. It is propagated by Seeds ſown the Beginning of *April*, and flowers in *June* the ſecond Year after Sowing, and dies the Winter following.

DAME's VIOLET.

The *Dame's Violet*, or *Queen's Gilliflower*, (of which the *double Whites*, the *double Purples*, and *double Strip'd*, are eſtimable, and give an odorous Scent, particularly in the Evening) is rais'd by Slips; which, ſet in the Ground at Spring, and ſhaded and water'd will grow well; but you are to

nip

nip off the Buds of your under-ſet Plants, as ſoon as they appear for Flowers; otherwiſe they will blow untimely, and ſoon after die.

CRANE's-BILL.

This is a beautiful Flower in the Day, and very ſweet and odorous in the Night. It is a tender Plant, and therefore ſet in a Pot: It is govern'd as the *Cardinal's Flower*, being hous'd and kept dry in the Winter, for over-much Moiſture is very pernicious to the Roots. It flowers in *June*, having eight or ten on one Stalk.

VENUS LOOKING-GLASS.

The *Venus Looking-Glaſs* is a pretty Seedling, the Branches whereof are low and tender, commonly lying on the Ground; the Flowers are ſmall, and of a bright purple Colour, having a white Chive in the Middle, that adds much to its Beauty. They flower in *June*, and are propagated by Seeds ſown in *April*; but they will increaſe after the firſt Year without ſowing, by the falling of the Seeds.

DITTANY.

Fraxinella, or *Dittany*, is delightful to the Eye, but not very grateful to the Noſe. It annually runs up in tall Stalks full of Flowers, not unpleaſant; and is increas'd by Plants or Seeds. The Seeds collected in *Auguſt*, and immediately ſown, or in *February* following, in rich Earth, will produce Varieties. The new Springs ought to be taken from the old Roots the Beginning of *March* It is a hardy Plant, and flowers in *June* and *July*.

CANDY-TUFTS.

These Flowers are rais'd yearly by Seed sown in *April*; they are small Plants, about a Foot high, having small Flowers of a white or purple Colour at the Top. Any Ground is agreeable to them, and they flower in *August*.

SCARLET BEANS.

The *Scarlet Bean* makes a pretty Shew, and continues in Blossom, more or less, for several Months; it climbs up Bushes or Sticks set for that Purpose, or more properly it is to be fasten'd to a Wall, where the Branches will spread advantageously. These Flowers are propagated by Seed sown yearly in good Ground, that hath the Reflection of the Sun, particularly in *April*.

AFRICANS, or FRENCH MARIGOLDS.

The *African* is taken Notice of for its large stately Flower, as broad as the Palm of your Hand, but it has no inviting Smell. It is rais'd by Seeds sown in *April*, in hot Beds, or other good Soil. When the Plants are grown in a tolerable Strength, remove them into rich Soil well expos'd to the Sun, but the out Borders are the most proper Situation. They flower in *August* or *September*.

HELLEBORE

The black *Hellebore* is regarded only for its Flowing about *Christmas*, when almost all other Flow-

ers are in Embryo, if not entirely unſeen. It is not beautiful, but the beſt Sort of White *Hellebore* with red Flowers, is a Plant eſteem'd by Floriſts. This flowers in *April* and *May*. Theſe Flowers are increas'd by Seeds: They eaſily vegitate and will endure long in the Ground without Removal.

The *Lady's Slipper*, (ſo call'd from the Reſemblance the Bloſſom bears to a Slipper) an *Helleborine*, is much valu'd by moſt Floriſts, altho' it grows wild in many Places of the *North* of *England*. It yields its Flowers early in the Summer.

The SENSIBLE PLANT, *and other Plants propagated for Fancy.*

The *Senſible Plant* has its Name from the Impreſſion the Touching of it makes, for you no ſooner touch the Leaf, but it inſtantly ſhrinks up together, and in a ſmall Space of Time afterwards dilates it ſelf again. The *Humble Plant*, ſo call'd from its proſtrating it ſelf on the Ground ſo ſoon as touch'd, tho' in a ſhort Time it elevates it ſelf again. And the *Noli me tangere*, which being touch'd, and the Pods, when they are groſs, and not fully ripe, being taken between your Fingers, will give a ſudden Snap, and fly in Pieces, to the great Surprize of the Perſon moleſting it. Theſe Plants are raiſed by Seeds ſown on hot Beds, and muſt be preſerv'd with great Care, being of a very tender Nature.

The other Flowers and Plants more common, and therefore not worthy particular Notice.

The *Fox-Glove*, *Garden-Mallows*, *Toad-Flax*, *Scabious*, *Snail-Flowers*, *Blue-Bottles*, *Fennel-Flower*, *double Pellitory*, *Fatherfew*, *double Lady's Smock*, *Gentianella*, *Caterpillars*, *Grove-Thiſtles*, *Apple of*

Love,

Love, Canterbury Bells, Thorny Apple, Oak of *Jeruſalem, Wolf-Bane, Batchelor's-Button, Bell-Flower, Rockets, Monk's-Hood, Campions, Moth Mullein, Garden Lupines*, &c. Theſe almoſt every Country Dame has in her Garden, and knows how to ſow, plant, and propagate them. Then, for your ſweet Herbs, there's *Marjoram, Baſil, Penny-Royal, Maſtick, Lavender, Thyme, Sage Gold and Silver*, and *double flower'd Roſemary*, which every Kitchin-Maid is ſo well acquainted with, that I need make no farther Mention of them. I ſhall conclude this Chapter with ſome neceſſary Directions relating to the Removal of Flowers.

If you have at any Time Occaſion to remove Flowers to any diſtant Place or Country, rub them over with Honey, and wrap them up in Moſs; it will effectually ſecure them, being pack'd up in Papers free from the Wet: And to prepare your Pots for Flowers, it is a good Method to ſet them out in the Sun, that the Earth may thereby be purify'd; which being muſty, would endanger the Roots.

Hot Beds, for raiſing of Flowers, and all other Uſes, *vide Kalendarium Hortenſe.*

CHAP. III.

Of FLOWER-TREES, SHRUBS, *and other curious Plants, and their Culture.*

BY the Propagation of the Flowers already treated of, and the *Flower-Trees* and *Shrubs* I am proceeding to, you may have your *Garden, Grove*, and *Avenues* replete with a ſufficient Variety of Flowers, at all Seaſons in the Year; and pleaſe the Eye in the moſt ſenſible Manner, at the ſame Time you gratify the Senſe of Smelling. In reſpect to

these Shrubs, the hardy *Mezerion* shews its Flowers in *January*, and continues till Spring; the *Jessamines* make up a good Part of the Summer; and the Monthly *Rose*, with a little Trouble, will continue to blossom till *Christmas*. I shall begin this Chapter with the *Rose-Tree*, which, by its Variety of beautiful odoriferous Flowers, is one of the greatest Ornaments of our *English* Gardens.

The ROSE.

There are many Sorts of *Roses*; the sweetest and most useful whereof, is the *Damask*; but the *Rose* most beautiful, is the *Rosa Mundi*, and the *Yellow Province Rose*. Other *Roses* of Signification, are the *Damask Province*, the *Austrian*, *Velvet Rose*, *Belgick Roses*, the *Marbled Rose*, the *Red Rose*, the *White Rose*, *Chrystial Rose*, *Francfort Rose*, the *Monthly Rose* of the Species of the *Damask*, the *Hungarian Rose*, *Apple Rose*, *double Dog Rose*, *Ever-green Rose*, and the *Cinnamon Rose*, which flowers in *May*, before any of the other Kinds are in their Beauty; and the *Musk Roses*, which flower in *August* or *September*, when all the other *Roses* are in their Decline. Then there's *Eglantine* or *Sweet Bryar*, one of the best of odoriferous Plants, and, next to the *Honeysuckle*, is the most delightful near your Houses, or Places of Repose; and the *Gelder Rose*, or *Elder Rose*, a hardy Tree yielding plenty of white Branches full of Blossoms.

Roses are increas'd by Inoculation, or by laying down the Branches of the whole in the Earth in the Spring, for all *Roses* are apt to yield Suckers; this last is esteem'd the surest Way, wherein you are to prick many Holes with an Awl, about a Joint that will lie in the Earth, and then cover it with good

Mould,

Mould, and well-rotted Dung, pegging them down, that they rise not again; and being water'd now and then in dry Seasons, by Autumn they'll be fit to be cut off and remov'd. This Method is no Hinderance to the Produce, nor Beauty of the Tree the next Year. If you increase these Trees by inoculating the Buds on other Stocks, the best Stocks are the *Damask*, *White*, *Francfort*, and *Wild Eglantine*. This Operation is to be perform'd about Midsummer; the Buds inoculated, are to be as near the Ground as may be, that the sprouting Lance may be laid in the Earth to root after one Year's Growth; and the Stocks must be kept free from Suckers.

When you intend to increase the *Yellow Province Rose* (the greatest Beauty, as I have before observ'd) the compleatest Method is to bud a single *Yellow Rose* on the Stock of a vigorous *Francfort Rose*, near the Ground, which will in a short Space shoot to a good Length; then inoculate in that Branch your double *Yellow Rose* of the best Kind, and keep off all Suckers from the Root of the first and second, leaving only the last, which ought to be prun'd very near, leaving but few Buds in the Spring; so that they may want no Nourishment to produce large and fair Blossoms. This *Yellow Rose-Tree* delights most in a cold, moist, or shady Place, contrary to all other *Roses*, and is by no Means to be plac'd against a hot Wall.

No Expedient is necessary to accelerate the early flowering of *Roses*, since they commonly blow in a Season when other Flowers cannot eclipse their Glory; and if any Experiments are us'd for altering the time of their flowering, those for retarding the Bloom, are to be embrac'd, which is easily effected; you need only shear off the Buds of the Tree when they new put forth, the Business is done; and a second

ſecond Shearing in ſuch a Caſe, may very well anſwer your Expectation. In pruning of *Roſe-Trees*, you are to cut them with your Garden-Shears, pretty cloſe to the old Wood, preſently after Blowing; and near the Spring, all dead Wood, and ſuperfluous Branches, are to be taken away; and the Branches left to be prun'd cloſe to a Leaf or Bud. Let none of your *Roſe-Trees* grow to a luxuriant Height; four or five Foot high is lofty enough for all *Roſes*, except the *Musks*, which thrive beſt againſt a Wall, and are uſually permitted to grow to their full Height, which is eight or nine Foot at leaſt.

The common Sorts of *Roſes* flower in *June* and *July*, but you may have the Monthly *Roſe* until *Chriſtmas*, by placing it in ſome Nich of a South-Wall, with Shutters artificially made for its Defence againſt the Cold, or by adding artificial Warmth.

The JESSAMINE, &c.

This Tree is likewiſe famous for producing Flowers of a grateful and odoriferous Scent. The Kinds of *Jeſſamines* are, the *White Jeſſamine*, the *Yellow*, the *Indian Jeſſamine*, the *Spaniſh Jeſſamine*, the *Perſian Jeſſamine*, and the *Arabian Jeſſamine*, or *double white Pipe-Tree*. The *Yellow Jeſſamine* is the moſt common, and the *White* is the moſt eſtimable, yielding one of the moſt odorous Flowers in Nature; tho' the *Perſian Jeſſamine* preceeds all others, in reſpect to the Time of Bloſſoming; the *yellow ſtrip'd Jeſſamine* is judiciouſly treated of by Mr. *Laurence*, in the firſt Part of this Work. And the *White* and *Yellow* common *Jeſſamines* are increas'd by Layers and Suckers; but the *Indian Yellow*, and the *Spaniſh Jeſſamines*, *&c.* are oftentimes increas'd

creas'd by grafting them late in the Spring, by way of Approach on the common *White Jeſſamine*; but they may be likewiſe increas'd by Layers: The former endure the Winters Cold very well, (tho' their Branches are but ſlender and weak, and require the Aſſiſtance of a Wall, or Palliſade, for their Support) but the latter are leſs hardy, and therefore planted in Pots or Boxes, that they may be hous'd in the Winter, for their Preſervation. They flower in *July* and *Auguſt*.

The *Syringa Pipe-Tree*, or *Lilack*, bears a Bloſſom not much unlike the *Perſian Jeſſamine*. It flowers in *April* and *May*, and yields plenty of Suckers; but is a nice Plant, and requires the Skill of a curious Artiſt, for its Management.

The POMEGRANATE.

The double bloſſom'd *Pomegranate-Tree*, is eſteem'd the moſt excellent of all flowering-Trees; it merits the beſt Place in your Garden, and requires a warm South-Wall for its Propagation, being very tender whilſt young, but afterwards becomes very hardy. Theſe Trees are increas'd by Layers or Suckers, which are to be defended from Froſts in the Winter, by Matting or otherwiſe; but the moſt effectual Way is to plant the Suckers in Boxes or Caſes made of Wood, that may be hous'd in the Winter: In the Spring you are to ſeparate the Suckers that proceed from each, (which uſually are many in Number) and keep them to a few or but one Branch, that they may not be robb'd of their Nouriſhment; and if you ſometimes enrich the Soil with well-conſum'd Hogs-Dung, they will be very apt to bloſſom. They flower in *Auguſt* and *September*;

tember; and the Bloſſoms, for Fairneſs and Beauty, exceed all others that are born by Trées.

The MEZERION.

This is a Plant of the moſt hardy Nature, and is valu'd for ſending forth its pleaſant Flowers in the feverelt Seaſon of the Year, commonly in *January*; and for its Duration at ſo cold a Time, until the End of *March*, when the Bloſſom is ſucceeded by Leaves and fine Coralline Berries. By theſe Berries it is propagated, being ſown in good Earth in *July*; but they will not come up until the ſecond Spring, neither will they be fit to be remov'd 'till a Year or two after. Tho' Cold will not injure this Shrub; yet it is very nice in the Choice of its Ground; the Soil ought to be neither light nor very moiſt; and for Weather, Heat only is pernicious to it. There are three Sorts of *Mezerions*, the *White*, the *Red*, and the *Peach*-colour'd.

The INDIAN BAY, &c.

This Plant thrives with us but ſlowly, riſing not above four Foot high: It is thick with Leaves, which are betwixt thoſe of the *Cherry Bay*, and the common Kind; the Flowers grow in a long Spike, of a greeniſh white Colour, and are ſucceeded by Berries like ſmall *Olives*. This Plant flowers in *July* and *Auguſt*, and is increas'd by Layers. It muſt be defended from Froſts in the Winter.

The *Dwarf Bay* bears Flowers in *February*, and thoſe Flowers are follow'd by ſmall Berries; by which are rais'd beautiful Plants, being interr'd in good light Earth, in Boxes, as ſoon as they are ripe; or good Earth ſpread abroad under the Shrubs, for

the

the Seeds, as they ripen, to fall into, is a very good Way for Propagation, covering them over with the ſame Mould, but not too thick.

The *Roſe Bay* is a pleaſing Plant, bearing ſome bluſh and ſome white Flowers; but muſt be ſecur'd from the moſt violent cold Weather.

The STRAWBERRY-TREE.

The Leaves of this Tree are alternately green, like the *Bays*; the Flowers grow on the Ends of the Branches, with long Stalks, being little white Bottles, like to thoſe of the *Lilly of the Valley*, which are of little Beauty, but ſucceeded by beautiful Berries, like to *Strawberries*, containing many Seeds. Young Plants are rais'd from theſe Seeds, and ſome by Layers; they are ſlow in their Growth, and muſt be carefully remov'd with ſome of the Earth about them, when fit, to ſome warm Situation under a South Wall. This Tree flowers in *November*.

The DWARF ALMOND.

The *Dwarf Almond* is a pleaſant Plant, and produces many fine *Peach*-colour'd Bloſſoms in *April*; and ſome Years it brings to Perfection bitter *Almonds*, which gives it its Name. It yields plenty of *Cions*, and will endure all Weathers without houſing.

The CISTUS.

The *Gum Ciſtus* riſes higher than the *Ciſtus Mas*, and is more ſpreading in its Branches; at the Tops whereof ſtand ſingle white Flowers with five Leaves, like ſingle *Roſes*; which being paſt, ſquare Heads ſucceed, containing ſmall brownish Seeds. Theſe Plants are propagated by Seeds collected in *Auguſt* or *September*; and ſown in good rich Earth in *Feb-*

ruary; or they may be increas'd by Shoots taken from the old Tree, planted in good Earth, and carefully look'd after; for they endure not Cold, but are to be hous'd in Winter. They flower in *June* or *July*.

The SENA-TREE.

There are two Sorts of *Sena-Trees*, the *Scorpion Sena*, and the *Baſtard Sena*, both of them producing fine yellow Bloſſoms, and beautiful Leaves. They are increas'd either by Seeds, Suckers, or Layers; endure all Weathers, and are very tonſile, and reducible to Order, but ſlender; and therefore want the Aſſiſtance of a Wall for their Support.

The INDIAN FIG.

This Tree, call'd the *Minor Fig*, produces Leaves ſpringing one out of another, and is the only Shrub propagated by the Leaf; which being interr'd half into the Earth, will take Root, and put forth others; but this is owing in a great Meaſure to the Subſtance of the Leaf; for it is of the Thickneſs of your Finger. At the Tops of the Leaves, in *June*, appear the Flowers of a yellowiſh Colour; after the Flowers are paſt, the Head increaſes, and comes to the Form of a Fig, but never with us arrives to Maturity. This is planted in Pots, and hous'd in the Winter.

SHRUB SPIREA; or, SPIREA FRUTEX.

This Tree riſes up about a Yard high, with ſeveral woody Stalks ſet with Leaves, not unlike thoſe of *Sally*, but ſomewhat leſs, and nick'd on the Edges;

on the Tops of the Stalks shoot forth many small Flowers, of a pale *Peach*-Colour, which are in their Splendor in *August*. It is increas'd by Layers, and will endure the Winter.

HYPERICUM FRUTEX.

Hypericum Frutex, or woody St. *John*'s *Wort*, is a Shrub producing abundance of small slender Shoots, which are so thick with small white Blossoms in *May*, that it makes the Figure of a Tree all hoary with Frost. This Tree is increas'd by Layers or Suckers, and very well endures all Weathers.

The LABURNUM.

This Tree is pleasing, tho' common, and is by some call'd *Bean Trefoyl*, from the Resemblance the Leaves bear to the Herb *Trefoyl*, and its Pods to Beans. It is propagated by Seeds, Cuttings, and Layers, and requires some artificial Helps for the Support of its weak Branches, which in *May* produce a good Quantity of fine yellow Flowers.

The VIRGINIAN CLIMER.

This Plant comes out of the Ground usually in *May*, (with long winding Stalks, more or less, and in Height, according to the Age or Vigour of the Plant) shews its beautiful Flowers in *August*, and the Stalks die to the Ground on the Approach of Winter, springing again the next *May*. This Tree is increas'd by little long Roots, which run far in the Earth, and put up Heads in several Places: It loves a hot Position: and is therefore to be planted in a large Pot, for the Benefit of Removal, and for

houſing in the Winter; and this will ſecure the Roots from a too large Increaſe. Theſe Pots may be ſet in hot Beds in the Spring, to bring them forward. If you ſet them not in Pots, the Roots are to be cover'd, and defended from Froſt in the Winter.

VIRGINS BOWER.

There are two Sorts of *Virgins Bower*, the *Red*, and the *Purple-colour'd*; but the *double Purple* only is eſtimable. It is a climbing Tree, fit for Arbours, or other Places of Repoſe; tho' it does well againſt a Wall. In the Winter you may cut off the young and ſmall Branches, which are apt to die: In *March* you are to prune them, and the ſhorter you cut them, the fairer will be your Flowers. Theſe Trees are increas'd by Layers, and are very ſpreading. They flower in *July* and *Auguſt*.

The SHRUB MALLOW.

This Tree bloſſoms in *Auguſt* and *September*, and adds to the Variety of the Autumn; the Bloſſoms reſemble thoſe of the *Mallow*, and are equal fair and ornamental. Theſe Trees, (there being two Sorts of them, the *Purple* and the *White*) are increas'd by laying down the Branches in the Earth, or graffing by Approach; and ſometimes they may by propagated by Seeds; but thoſe ſeldom come to Maturity here. They endure the Winter, and are commonly planted Standards.

SPANISH BROOM.

The *Spaniſh Broom* is not much unlike to the *Yellow Jeſſamine* in Form, but the Flowers reſemble the *Ordinary*

Ordinary Broom. This Tree is encreas'd by Suckers or Layers, or it may be rais'd by the Seed being ſown as ſoon as it is ripe; and will thrive beſt under a South Wall. It flowers in *May*.

EVERLASTING PEASE.

This Plant bears a pretty Bloſſom, of a purpliſh red Colour, (tho' there's a blue one that is more rare) like unto large Peaſe-Bloſſoms. It is call'd *Everlaſting Peaſe*, from the long Duration of the Root; but the Haum, which likewiſe reſembles that of Peaſe dies to the Ground in Winter, and ſhoots forth again in the Spring. This Haum riſes high, and muſt therefore be ſupported: In *September* it produces Cods with ſmall Peaſe, which being ſown in the Spring will produce new Plants; but they are two or three Years before they arrive to Maturity to bear Flowers.

WOODBINDS.

The *Honey-Suckle* is the chief of theſe Plants, and although it be a common Vegetable, yet well deſerves the Pains of Propagation; eſpecially the more generous Kinds of it, the double, and the red, which make a moſt agreeable Mixture with other climbing Trees in the covering of Arbours, Summer-Houſes, Seats, *&c.* the Flowers being not only beautiful, but of a moſt odorous Smell. Both Sorts are eaſily encreas'd by Layers, and the double Sort flowers in *May*, and the red in *June* or *July*.

Periploca is a *Woodbind*, that twiſts it ſelf about a Pole like unto the Hop. It is encreas'd by Layers, and annually puts forth ſmall blue Bloſſoms.

PEACH-

PEACH-TREE, and CHERRY-TREE.

There is a Sort of *Peach-Tree* which produces beautiful double Flowers: and a *Cherry* that bears a fair double Bloſſom, of a white Colour; the former produceth Fruit, but the latter doth not, yet it is an acceptable Plant to Floriſts. Theſe Trees require a Place under your Walls.

The ROSEMARY-TREE.

Tho' this be a vulgar Plant, it is one of the moſt uſeful the Garden affords: The common Sort is generally turn'd over to the Kitchin Garden; but the dwarf Kind of *Roſemary* with a double Bloſſom, kept ſhear'd, is very comely, and generally admitted to a Place in your beſt Garden. It loves a warm Situation, and is eaſily manag'd, were not the cold Winds prejudicial to it. It flowers in *May*, and is encreas'd by Slips ſet either early in the Spring or in Autumn; and ſome ſay it may be rais'd by Seeds brought from foreign Countries.

There's your *Roſemary* gilded with Yellow, and a Sort of it variegated with White, very delightful to the Eye, which are to be preſerv'd under warm Walls, or other Fences, againſt the Violence of the Wind,

SHRUB NIGHTSHADE.

This is a gilded Weed, which for Variety ſake is entertain'd in Gardens. It flowers towards the latter End of *May*, or in the the Beginning of *June*, and is encreas'd by Layers, or Seeds ſown in Boxes of good Earth; notwithſtanding this is a Weed, it requires houſing in the Winter.

CHAP. IV.

The most commodious Methods for erecting CONSERVATORIES, GREEN-HOUSES, *and* ORANGERIES: *With the Culture and Management of* EXOTICKS, PERENNIAL GREENS, *and other tender Plants.*

THE Preference that is given to *Exoticks* beyond our *Domestick* Plants, and the Observations I have made relating to those Vegetables, occasion me to treat concisely of them; flattering my self, that a short Chapter on this Head will not be unacceptable to the curious. These Plants are acquir'd and propagated with no small Trouble, and at a necessary Expence: But the Beauty of the *Orange* and *Lemon* only, when they are ripe and in their full Glory, (which they will arrive to in a few Years, with an exact Culture and Management) and the odoriferous Flowers or Blossoms they annually produce when they have attain'd a tolerable Growth, will be a sufficient Recompence to all curious Persons, for the Expence and Trouble in their raising and bringing to Perfection. I shall begin with the Conservatories for these fine Greens.

The GREEN-HOUSE, and other Conservatories.

In respect to the Situation of your *Green-House*, very little need be said to induce you to a good Choice; the South and East Exposition, every Body knows, receive the greatest Benefit from the Sun, and are the most benign to all manner of tender Plants, which of Consequence determines your Election; but there are many other Things relating to the Conservatories, and particularly the *Stoves*, worthy

thy of Observation. I shall first give you the regular Dimensions of a *Green-House*: The Length of your House may extend about twenty five Foot or more, the Depth about twelve, and the Height not above ten Foot; and whatsoever Length your *Green-House* is of, it ought not to be above thirteen Foot in Depth. The Side expos'd next the Sun ought to be made of large Sash-Windows; For Light it self, next to Air, according to the judicious Observations of Mr. *Evelyn*, is of the greatest Importance to the Greens and Plants; but then the Joints and Glazing ought to be accurately fitted: And at your Entrance into the House, it were convenient a small handsome Porch (which might be likewise shash'd on the Sides) were erected, that the Door of it might shut close after you, before you open the *Green-House* Door, and by that Means prevent the rushing in of the crude Air. Your *Green-House* being so compleated, I proceed to the *Stove*: At one End of the Conservatory, either the East or West, on the outside Wall, side-ways, you may build your *Stove*, of Brick or Stone, in a square Form, of the common Size of a plain single Furnace, consisting of a Fire-Hearth, and Ash-Hole only; which need not take up above two Foot from Side to Side; built so, that the Fire-Grate stand about three Foot above the Floor of the House, and the Flue-Shaft, and Fire, and Ash-Hole, to be all without joining close to the Wall of the House, in the Middle: Let there be several earthen Pipes through the *Stove*, just underneath the Fire-Hearth into the *Green-House* from the open Air, which will let into the House as well the Heat, as a Supply of qualify'd Air and Nutrition to the Plants; so that the Plants will not be suffocated or sickly by a long Confinement for want of breathing; (the Case of a great many Vegetables in *Green-Houses*

with

with common *Stoves*.) To this you may add an Air-Pipe of the whole Length of the House under Ground. The Flue in the outside of the Wall will carry up both the Smoke of the Fuel, and the exhausted Air of the *Green-House*, through the Air-pipes, *&c.* And as your Greens are plac'd neater or farther from the Noses of the *Stove*-Pipes in the House, so they will enjoy the Climates which are most natural and agreeable to them. This is the Method recommended by the ingenious Mr. *Evelyn*, and is generally approv'd by all such Gentlemen as can afford the Expence.

In your common *Green-Houses*, the Sashes are discretionarily open'd, for the Benefit both of the Sun and the Air, when either are kind or agreeable: The Walls ought to be dry and thick, and the Floor to be advanc'd higher than the Earth; under which, in a Sort of a Vault, *Stoves* are methodically prepar'd for Firing, with Pipes for the regular Conveyance of the Heat; so that there may be an equal moderate Heat diffus'd over the whole *Green-House*: But these Fires are not to be made, until Water freezes in your Conservatory, which plainly shews a Necessity; and at no Time to be over large, for that would consume and dry up the Moisture of the Roots, which are not regularly to be water'd during the Winter, tho' the Earth about them ought to be always moist. Setting *Orange-Trees* very close together in the *Green-House*, I have observ'd, will cause them to sweat till they drop, to their no small Refreshment: And on their Removal out of the *Green-House* in *May*, and their carrying in again about the Middle of *October*, you are to bestow upon them a plentiful Watering; I suppose I need not caution you to season your Trees gradually to the Air, and likewise to and from the Heat, so as they may be at all Seasons in the Year, as near as may be, of one Tem-

perature, which you'll find very much advantage and facilitate their Growth.

Where you have no *Stove* for your Conservatory, you may sink a Hole a little Way into the Floor, about the Middle of the House, and therein make a moderate Fire of Charcoal; which will answer your Expectation.

Mr. *Woolridge* recommends a Wall adjacent to the House, well defended behind, and on either Side, and the Top secur'd from the Weather, in the Nature of a large Nich, having several Leaves or Doors made to shut before, with Concavites behind, thro' which the Heat of Fire may pass to your Trees in a severe Season, to be a proper Situation for *Orange-Trees*: Against such a Wall you may plant your *Oranges* with Success, and prune them there without Removal, observing, in the Spring, to spread your Leaves or Doors by Degrees, before you open them quite; and on the Approach of Winter, likewise, to shut them up gradually.

A Conservatory, or separate Place for variegated Greens, Plants, and Flowers, *vide* Mr. *Laurence's* Letter, at the End of this Work.

There are another Sort of Conservatories, (hitherto unobserv'd by any Author) easily erected, and with little Trouble preserv'd, which, in my Opinion, are equally useful to any, next the regular built *Green-House*; which is this: In the Autumn mark out a Piece of Ground, of about twelve or fifteen Foot in Length, and about five or six Foot in Depth, under a warm South Wall well guarded from Winds, and generally near your Melon Ground you make a Choice to your Satisfaction; for this Ground prepare a wooden Frame, of about seven Foot high against the Wall, and lowering to about five Foot on the outside from the Wall, with an easy Slope; the

Sides

Sides of this Frame fill up pretty thick with dry Reeds or Rushes, which are very warm; having a Door likewise of Reed before, or one half of the Side made to throw open upon Occasion, for Access to your Greens; and let the Slope over Head, or the greatest Part thereof downwards, be cover'd with common Glass-Frames, like those of hot Beds, about three of them in the whole Length of the Front, for the letting in either the Sun or the Air; when it may be proper: This Convenience may be erected for an inconsiderable Expence, in respect to any other Conservatory, and may be maintain'd in Repair for a very Trifle; for one Coat of Reeds will very well serve two Years. This Conservatory will commodiously receive five and twenty Greens in Pots, besides Flowers and other small Plants; which is a sufficient Number of tender Vegetables for a delightful Garden.

Then for *Orangeries*, I have observ'd, that the Ground fit to be chosen is likewise under a well shelter'd South Wall; that about twenty Foot square is an agreeable Size; that the best Hedges are your *Hornbeam* and *Dutch* Elms, agreeably mixt, (to which you may add some few *Ews* or *Firs*, especially at the Corners) which will grow ten or fifteen Foot high, and are no less beautiful than lofty, being kept exactly shear'd: Through the Middle of this Conservatory, it is necessary, that there be a Walk fill'd of the Sides with your choicest *Oranges* and *Lemons*; and the Spaces behind stor'd with your other fine Greens and Shrubs, as they deserve Place: This principal Walk through your *Orangery*, with little solitary Walks round your Greens, and an Arbour, or Place of Repose, being near a River or murmuring Brook, when some of the Trees are loaden with delicious Fruit, and others are in Bloom, which is generally the Case where there are Trees of different Ages, in the

blowing Season, is certainly the greatest Pleasure attainable by the Improvement of Nature in a Way of Plantation. Having now done with my *Green-House*, Conservatories, and *Orangeries*, I proceed to the *Exotick* Plants, for which they are erected, and begin with the *Orange-Tree*.

The ORANGE-TREE *and* LEMON-TREE.

These Trees are of a very tender Nature, expect an exact Culture, and require the Care of a well-skill'd Gardener. The most agreeable Soil for them, which Mr. *London*, in his admirable Book of Gardening, mentions, is a fine loamy and substantial Earth, temper'd with an equal Quantity of Earth of decay'd *Melon* or *Cucumber* Beds, sifted into Cases, after it has remain'd a whole Winter to meliorate; and substantial Earth, and Sheeps-Dung, or Neats-Dung, is an excellent Soil. They are rais'd of Kernels of the *Sevil* Kind, sown in *March*, in hot Beds or Cases of the richest Soil, about two Inches deep, the Earth is to be kept frequently stirr'd about them, from *April* to *October* yearly, which moves the Salts and contributes much to the Vegetation of all Sorts of young Trees; and they being water'd and prun'd with Discretion, in about three Years Time they'll be of Maturity for Inoculation; (when you may bud at the End of *March*, placing two Buds opposite to each other, within an Inch of the Earth:) And in about four or five Years they'll be of a fit Size to graff on; when after having made Choice of Graffs from the Fruit you desire, you may perform the Operation of graffing cleft-ways, as you do other Fruit in *April* or *May*; but the most preferable Method is graffing by Approach; which is done by plying the Stock down to the Ground, after you have fix'd your Graff, and then covering it with Earth just below the same. In

August

August you are to cut off the Stock just beyond where 'twas fix'd in the Ground, and so your young Tree will be intire. These Trees may be likewise increas'd by Suckers. If you do not raise the Trees your self, but buy the Plants, take Care to make Choice of those that are of a lively yellowish green Colour; which, on making an Incision, the Rind separates from the Wood, and the Wood underneath the Bark, moist, having Leaves that are firm; for these are worthy Election: But the *Limon* hath a more yellowish Bark than the *Orange*. Your Tree so chosen, lop the Head of it to within three or four Inches of the Body, taking away all small Branches, and prune the Roots in the same Manner, leaving none but the large ones, and those not above five or six Inches in Length; and then plant it in *April* or *May*, or in *October*, the proper Seasons. When you have Occasion to transmit *Orange*-Trees to Foreign Parts, Monsieur *Quintiney* advises you to dock their Roots shorter than the Heads; which last he proposes, in such a Case, to be left eighteen Inches in Length from the Body.

In the Pruning of the *Orange*-Tree, you are to endeavour to bring it, as near as may be, to the shape of a *Mushroon*, to be full and flat, and well fill'd with Branches in the Middle, but not too numerous, which would make a Perplexity; and you are to take Care that no Branch be permitted to shoot above half a Foot in one Spring. The Season for Pruning, is from *May* to *August*, wherein the small Branches only are to be taken away, unless it be to reduce the Tree to a more handsome Figure, when large Branches may be likewise shortned. And to prevent Injury in such Cases, you may apply Clay, or a Mixture of Bees-Wax, Rosin, and Turpentine; and when they are sick, be sure leave not the Head too large for the Root. When your Trees want Re-

casing,

casing, which will be once in four or five Years of Course, and oftner, if they are sickly, you are to pare off about two Thirds of the old Mould, with a Cutting-Knife, as the Tree stands in the Box; then pull out the Root with the Earth, and put it under Water for a small Space; then having prepar'd fresh Earth, as already directed, well water'd the Day before, that it may bind, but not be over moist, place the Tree in your Tub, and the fresh Earth round the Root, ramming it down pretty hard. This is the Method generally observ'd in Re-casing; and as the Trees grow large, you are to enlarge your Cases. * But the Earth may be renew'd without Re-casing, by abating the upper Part of it, and stirring it gently with a Fork, taking Heed to the Roots, and applying the prepar'd Earth in the Room of the other, in *May* and *September*: At which Time it may be done annually, for their Nourishment and Preservation. You are to water these Trees, during the hot Months, from *May* to *August*; or you may continue to give them Waterings 'till *October*, in a dry Season; but you are to do it gently; and two Waterings in a Week may suffice. The Water ought to have Sheep's Dung infus'd, and to have stood in the Sun in the same Manner as the Water for Flowers.

The fragrant Flowers of this Tree continue long, 'till new ones thrust them off. They are in their Glory in *August* and *September*, when you are to gather most of them; for if many are left to knit, the Tree will spend it self in the Fruit. The *Limon*-Tree requires exactly the same Culture as the *Orange*.

The MYRTLE.

The *Myrtle* is an odoriferous Plant, which was highly esteem'd by the ancient *Romans*, who built many

* Vide *more of Re-casing* Orange-*Trees*, &c. *in Kalend. Hortens. Mens. May.*

many Superſtitions and Prognoſticks, relative to the Government, from the good or ill State of this Tree. And ſome Authors affirm, that the ſweet Perfume of it, when burnt, became an Atonement for the Offence the *Romans* had committed in raviſhing the *Sabine* Virgins. And *Cato* mentions a *Myrtle*, call'd by the Name of the *Conjugal Myrtle*. There are ſeveral Sorts of *Myrtles*; the moſt worthy whereof is the double white bloſſom'd *Myrtle*, that flowers in Autumn: Others are the broad-leav'd *Myrtle*, and the narrow-leav'd *Myrtle*, both very fine and ſweet ſmelling Shrubs. An eaſy Defence will make them endure hard Winters. And there's a Sort of *Myrtle*, call'd the *Spaniſh Myrtle*, that will reſiſt all Weather without any Shelter. Theſe Plants are increas'd by Layers, and likewiſe by Seeds; but the latter are the moſt tender. The uſual Time for laying, and alſo for removing them, is in *Auguſt*; and they may be tranſplanted into Caſes in *April*. Old Neats Dung beaten ſmall, and an equal Share of good loamy Earth, with a little Willow Earth, is an excellent Compoſt for theſe Plants.

The PASSION FLOWER.

The *Maracoc*, or *Paſſion Flower*, ſo call'd from the Thorns it bears, repreſenting the Thorns wherewith our Saviour was crown'd, is increas'd by Cions, which it plentifully produceth. This Plant will yield many beautiful Flowers in *Auguſt*, being preſerv'd from the Extremity of the Froſt, and ſecur'd from Snails, which as naturally affect it, as Cats do the *Marum Syriacum*.

AMOMUM PLINII.

This Plant was entertain'd with Pleaſure by *Pliny*, from whom it receiv'd its Name. It grows common in divers Parts of *Aſia*, and yields a rich and coſtly

costly Berry, very useful in Perfumes; and is now, with great Care, and the Help of the Conservatory, nurs'd up in our Climate; and being very tender, requires the same Management as the *Orange-Tree*.

The INDIAN JESSAMINE.

The *Yellow Indian Jessamine*, and *Spanish White Jessamine*, being very curious Shrubs, and yielding most fragrant Flowers, merit a Place in the open *Green House*, where a small Defence will secure them from the pernicious Effects of severe weather.

MARUM, MARUM SYRIACUM.

The *Marum* or *Mastick Thyme*, is a very common Plant, but of a curious Scent, and therefore worthy Preservation. It is apt to be increas'd by Slips, but very easily destroy'd by Cold. The *Marum Syriacum*, or *Assyrian Mastick*, is of the same Naturs as the other *Marum*, and requires the same Culture; but there's great Difficulty in securing it from Cats, which are easily entic'd to devour it. These Plants are best presery'd by placing them within the Earth, and covering them.

The LILY *of* JAPAN.

This is a rare and curious *Exotick*, yielding a fair Branch of Flowers, not unlike to the *Martagons*. And the Sun has so great an Influence over these Flowers, that when it shines on them, the whole Flower seems chang'd, and resembles Cloth of Gold: But the Root never produces any more Flowers after once blowing.

GERANIUM.

Geranium nocte olens, which smelleth pleasantly in the Night only, is a tender Plant, and very well deserves a Place in your Conservatory.

The *Aloe-Tree*, or *Sedum*, and its Managements, *vide Kalendarium Hortens. Mens. Novembris.*

There

There are ſeveral other fine tender Plants, of leſs Note, likewiſe worthy of Place in your Conſervatory; as the *Tuberoſe*, *Hyaconth*, *blew Borage-leav'd Auricula's*, *Bears-Ear*, *Sanicle*, the *Indian Bay*, *&c.* and many other Flowers and Shrubs, particularly mentioned in my preceding Accounts of them.

For the Preſervation of ſuch Plants that are tender, and yet will not endure houſing, the beſt Method is to put them into Holes made in the Ground, under a South Wall, Pots and all, ſo as to be two or three Inches lower than the Surface of the Earth, covering them with dry Moſs; and then put Glaſſes over them, and in all warm Sun-ſhine Days, and in moderate Showers of Rain, uncover them, for the Benefit of the Air and natural Moiſture; thus governing them 'till *April*.

CHAP. V.

Of other Greens more hardy, that will endure the Cold, EVER-GREENS, *&c.*

MR. *Laurence*, in his firſt Part of this Work, only juſt mentioning the interment of the Seeds, and ſome few general Hints relateing to the Management of the *Eugh*, *Juniper*, *Philyrea*, *Holly*, and ſome other *Ever-Greens*; I ſhall make it my Buſineſs, in this Chapter, to enlarge a little upon the particular Culture of thoſe Trees, and to give you an Account of divers other Winter-Greens, and Trees equally valuable, that are entertain'd in Gardens, Avenues, Walks, Wilder-

neſſes, *&c.* ſo as to make up, with the firſt and ſecond Parts of this Work, a compleat Syſtem of all Parts of Gardening, except the Kitchen-Garden, with common Obſervations eaſily acquir'd and the Aſſiſtance of my *Kalendarium Hortenſe*, in the Cloſe of this Work, ſufficiently perfects. The firſt Tree I ſhall treat of in this Chapter, is the *Laurus-Tinus.*

The LAURUS-TINUS.

The *Laurus-Tinus* is a delightful Shrub, yielding odoriferous white Bloſſoms, both in Summer and Winter. It is encreaſed by Suckers or Layers; and there's very little Difficulty in the Culture. For Variety, it has two Sorts, the Broad-leav'd, and the Narrow-leav'd; and as well theſe as the *Alaternus*, *Bay* and *Philyrea*, are generally admitted Place in the Conſervatory, with your *Pereunial Greens*, tho' they are a great deal more hardy.

The ALATERNUS.

This Green we have from *Languedoc* in *France*; it thrives very well in *England*, being eaſily propagated by Seeds, which are ſo quick in Vegetation, that they'll appear within a Month after interr'd. Theſe Trees are likewiſe encreas'd by Cuttings, and make the moſt uſeful and beautiful of Hedges; but this is not all their Uſe, they cover a Seat or Bower moſt neatly in a very ſhort Space. They are eſteem'd a Species of the *Philyrea.*

The PHILIREA.

The *Philyrea* is eſteem'd one of the moſt pleaſant Plants that Nature produceth; it ſpreads ſo

fairly

fairly and near the Ground, riſes to that Height, and is ſo eaſily manag'd, that you meet with entire Satisfaction in it. There are two Sorts of this Tree, the one with a ſmall edg'd Leaf, yielding plenty of Bloſſoms, but of a ſtrong Scent; and the other of a larger Leaf, leſs edg'd; which laſt is moſt beautiful, Both Sorts are encreas'd by Seeds or Layers, and ſometimes by Slips gather'd after a Shower of Rain in the Spring. They are to be planted Abroad at two Years Growth, but will not fairly bear a Remove, until the coldeſt Seaſons are over, tho' afterwards they'll endure the moſt ſevere Winters; and upon any Decay of the Tree being cut off near the Ground, the ſame will reaſſume its former Glory. Theſe Greens fill a Wall very handſomely, and make the thickeſt and moſt lofty Hedges of any Tree whatſoever of its Subſtance; for being planted in ſingle Rowes, at about two Foot Diſtance: Some Gardeners affirm it will produce a Hedge of a Yard thick, and fifteen or twenty Foot High, There's likewiſe a gilded *Philyrea* and *Alaternus* variegated with White, both very pleaſant Trees. The Strength of Sap in this Tree, and all other *Ever-Greens*, fortifies them againſt the Cold, and preſerves them in the Winter.

The LAUREL.

The *Laurel* is the Tree of Glory; with whoſe Branches the ancient *Romans* us'd to crown the Heads of their greateſt Emperors, in their moſt magnificent Triumphs: And the Branches of the *Laurel* are not only Emblems of Victory, but alſo of Peace, and Excellency in any ingenious Science, *&c.* It is a Tree of the greateſt Ornament,

and will gracefully fill your Wall, or beautify your Parterre in Standards, being kept prun'd to the Shape of the *Orange-Tree*. It is rais'd by Berries or Layers, but the last Way is to be preferr'd. This Tree will endure the most scortching Beams of the *Sun*, and thrive against the most shady Wall, and will arrive to twenty or thirty Foot in Height, if permitted: It delights in moist Ground, and no Weather will annoy it. These Trees require to be new planted, or abated to the Roots, once in six or seven Years; and there is a fine gilded Sort of them.

The BAY.

The *Bay* is a handsom odoriferous Tree, but not so beautiful or hard as the *Laurel*. This Tree is likewise to be kept to the Shape of the *Orange-Tree*, when it makes a good Standard. It is propagated by Seeds or Berries gather'd in *January*, and laid aside 'till they have done sweating, when they are to be interr'd in a very rich Soil, or in an entire Bed of Dung, as you sow Pease. This Tree may likewise be rais'd by Slips set in *March*; it thrives best in a hot gravally Ground, well shaded and defended from Winds; and Culture about the Roots contributes very much to its Vegetation. The *Bay* in Growth resembles the *Laurel*; and as there is an Emblem of Victory and Pre-excellency in any Science, *&c.* so is the *Bay* an Emblem of Excellence in Wit and polite Literature, our greatest Poets being pictur'd in a monumental Way, with a Coronet of *Bays*.

The EUGH.

Eugh-Trees being kept clipt, and reduc'd to regular Forms (the moſt beautiful whereof, are the round and ſquare Pyramid) make the moſt ornamental Trees you can have in your Garden; and are no leſs hardy than beautiful, for they'll endure all Weathers, and keep perpetually green. Theſe Trees are encreas'd by Berries, which will be the ſecond Winter before they ſhoot; at three Years Old, you may ſafely tranſplant them. When you clip them, take Care not to do it in a cold Seaſon.

The JUNIPER.

The *Juniper* is a delightful Winter-Green, and and altho' it is common in the Woods, yet merits a Place amongſt the choiceſt Plants. It is rais'd by Seeds, which are of a much quicker Growth than the Berries of the *Eugh*, for they'll come up in two Months Time; and it may be increas'd by Plants gather'd in the Woods. It grows either tall or ſpreading, according to its Management, like the *Cypreſs*, and is like the *Eugh*, capable of any Form.

The HOLLY.

The common *Holly*, in the Opinion of the famous Mr. *Evelyn*, deſerves Place amongſt the moſt ſelect Greens and Plants. And the gilded *Holly*, which claims the Preference of all gilded Vegetables, is certainly the moſt excellent of all perennial Greens, the Bark of this Tree and Berries, as well as the Leaf, is variegated with a bright Yellow; and the more yellow the Leaf is,

the

the more beautiful is the Plant. Theſe Trees are increas'd by Berries, cultur'd like the *Eughs*; they are of a ſlow Growth in Standards, but being planted in Hedges, they will vegetate as faſt as Quickſets. Your gilded Trees or Plants ought to be increaſed by Layers or Slips, or Grafts; for it is obſerv'd, That they are very apt to degenerate when raiſed by Seed. And the *Holly*, the *Eugh* and the *Fir*, and alſo the *Laurus-Tinus*, the *Bay*, &c. are hardy Plants, and will bear a Winter Removal. But the other more tender Plants are not to be remov'd, but in the Warmth of the Spring.

The BOX.

This Teee was very much in Requeſt in former Times when few fine Gardens were without ſome of them, they being very convertible to any Form or Shape; and being of a never-dying Nature, made them valuable; but they are now diſregarded, unleſs it be the gilded *Box*, which makes a pretty Variety in a golden Grove. The Common ſort of *Box* makes a very good Hedge; and the Dwarf Kind of it, makes an excellent Edging for Borders. Both Sorts are encreas'd by Slips ſet in *March*.

The CYPRESS and CEDAR.

This is the moſt celebrated Tree that our *European* Parts produce; being the moſt ſtreight and uniform Tree of any other, and throughout the whole Year preſerves its Verdure. Its natural Climate, is *Candia*; and the Seed here in *England* ſeldom ripens, ſo that you are oblig'd to have it from foreign

foreign Countries. This Seed you are to ſow in *April*; and when 'tis come up, you may at your Pleaſure remove the Plants, keeping them well weeded, and giving them due Watering. You may clip this Tree into a Pyramidal Form, when it makes it a beautiful Standard; and it likewiſe makes very good Hedges. If theſe Trees are not planted in an over-moiſt Soil, they'll endure the ſevereſt Froſts and ſharpeſt Winds. The *Cedar* is only regarded for the Rarity of it, not for its Beauty.

The FIR and PINE.

Firs and *Pines*, as the ingenious Mr. *Laurence* well obſerves, delight in a cold Soil, of a large Mixture of Clay; but they thrive very well in a barren gravelly Soil, tolerable moiſt. Theſe Trees are propagated by Kernels, and Nuts ſown in Earth, turn'd up a Foot at leaſt in Depth, and ridling Earth over them; the Seaſon for their ſowing, is in *March*. The Seed thus ſown, will ſhoot in about ſix Weeks Time, when you may tranſplant them, obſerving to give them a good Watering before you remove them, and pruning the Root before interr'd; but by no Means touch their Heads, which would deſtroy their Beauty in their Growth. The *Pine-Nuts* are gather'd in *June*, and ſown in *February*. Theſe Trees do not delight in tranſplanting; and when there is a Neceſſity for their Removal, cut neither the Head nor the Foot. The *Fir-Tree* is common in the Woods, but by Reaſon of its ſtreight, ſlender, and aſpiring Trunk, and the Regularity of its Branches, it deſerves a Place in your Gardens; eſpecially being planted in the Corners, or in the Center of your Squares,

or

or Graſs Plots, or in direct Lines at a little Diſtance from your Walks. This Tree will bear clipping, and is eaſily manag'd with the Shears.

The CHESNUT.

The moſt agreeable Soil for this Tree, is a light Sand; or any light Soil will anſwer your Expectations. This Tree is rais'd by Nuts, ſown in the ſame Manner as you do *Beans*, and will not well bear tranſplanting, which very much hinders its Growth; but if you do tranſplant them, let it be perform'd in *November*, and take care to prune the Heads and Roots. Theſe Trees may be kept to a ſmall Size, with delicate round Heads, by repeated Clippings; and at certain Seaſons they bear a beautiful Flower, and in a few Years the Flowers are ſucceeded by Nuts in the form of *Cheſnuts*; they make a very agreeable Walk to terminate your Parterre; or at a little Diſtance from your Garden, they'll make a moſt beautiful ſolitary Walk, being permitted to riſe to their full Growth.

The PLATANUS.

This Tree was very much admir'd by the ancient *Romans*; but more for its Shade, than any other Quality, as it abſolutely excludes the Beams of the Sun in the Summer; and the World doth not yield its Equal for that Purpoſe. It delights in a moiſt Ground, and being conſtantly water'd whilſt it is young, will ſoon arrive to your deſir'd Stature. The Branches are ſlender, but the Leaves very broad, and the Tree grows to a very large Extent. *Pliny* tells you, that the Emperor *Caligula* had one of theſe Trees in his Territories, which was

was so very large that it contain'd a capacious Room within; wherein fifteen Persons might sit at a Repast, and yet Space enough left for their Servants to wait on them.

The EVER-GREEN OAK, TREE of LIFE, &c.

The *Ilex*, or *Ever-Green Oak*, is a very hardy Tree, but slow in its Growth; and is propagated by Seeds or Layers. This Tree claims a Place in your Garden.

The *Arbor Vitæ*, or *Tree* of *Life*, may deserve Plantation, to make up the Number of your Greens, and more for its Rarity than Beauty; as the *Savin*, which is a Tree very much like it. It is call'd *Arbor Vitæ*, from its ever green and hardy Leaf; is rais'd from Seeds or Layers, and bears a Flower in *May*.

The GLASTENBURY THORN.

This is, in Appearance, a vulgar *White Thorn*, yielding Plenty of Blossoms in *December*; sometimes it is in Blossom exactly at *Christmas*, but that depends very much upon the Weather; an over mild Season will cause it to blow sooner, and a very severe Season may retard it 'till after that Festival is ever; the Blossoms are succeeded by Berries and Leaves, as the ordinary *White Thorns* are in the Summer. This Tree may be rais'd by the Seed, but the most expeditious way is by grafting it on a common *White Thorn*.

I shall close this Chapter with some general Observations concerning Plants and Trees; and particularly to check a luxuriant Growth, which

is oftentimes very pernicious. When any of your Trees or Plants are inclinable to an Exceſs of Growth, you need only tranſplant them into Pots, and remove them into the Shades, and you'll find the Vigor ſufficiently abated: By this eaſy Means, the Beauty of the Tree will be effectually preſerv'd. And this Management I have experienc'd, is ſometimes attended with further good Conſequences; for I have known it cauſe Greens to be ſtrip'd, and promote an agreeable Variegation.

CHAP VI.

Concerning Plantations in AVENUES, WALKS, WILDERNESSES, *&c. and the beſt Methods for raiſing, pruning, and diſpoſing of all lofty Vegetables.*

IN my preceding Chapters, I have given you a conciſe Account of the moſt delightful Trees and Flowers, which compleat the Beauty of the Garden and the Grove; and which give the moſt conſummate Satisfaction, in a deſirable Receſs, from the Noiſe and Buſtles of the World; I proceed now to larger Plantations, ſuch as *Avenues* to your Houſe, *Walks* in your *Parks* or *Meadows*, *Wilderneſſes*, &c. which in my Opinion very well merit a Place in this ſmall Treatiſe. Works of this Nature are too often neglected or forgotten, tho' they are not only attended with a great deal of Pleaſure, but are exceeding profitable. The Beauty of theſe Plantations is hardly to be expreſs'd, and the Advantage not eaſily credited by

by Perſons unacquainted; and the Expence ſo trifling, that it can be no Pretence for not entring upon this commendable Work, which makes your Fields and Meadows an open Garden, and the whole Country a perfect Paradiſe. I begin this Chapter with the magnificent *Oak*.

The OAK.

Foreſt-Trees (of which the *Oak* is the principal) generally thrive well in the coarſeſt Land, provided there be a ſufficient Depth of Mold; and no Soil is diſagreeable to theſe Trees in general, except Clay; which, however, is an approv'd Soil for the *Oak* in particular: This Tree will alſo grow on a Rock, but with this Diſadvantage, that the rougher the Ground, the more coarſe will be the Grain of the Timber; and the higher the Ground, the ſmaller the Timber; tho' if the Soil be tolerable, it is made up in the Goodneſs of it. There are four Sorts of *Oaks*, and they are all rais'd by Acrons, collected in *November* by ſhaking the Trees, and preſerv'd in Sand during the Winter. They are ſown in the Spring in Ground broke up ſome Time before, about a Foot aſunder; and when they have ſhot an Inch or two above the Ground, you may plant ſome of them abroad where they are two thick. In *June* beſtow a light digging upon them, and ſcatter Horſe Litter or Fern to preſerve the tender Roots from the ſcorching Sun: If they are above an Inch in Height when you remove them, cut them, cut them to that Length; the ſecond Year cut them to ſix Inches in Length, but be ſure meddle not with the ſmall Branches of the Roots. When you tranſplant theſe Trees, (which is neceſſary

twice in the first six Years, to facilitate their Growth) do it in *October* or *February*, having for some Time before cut the Roots round the Tree, and fill'd in the Earth again, (which very much adds to its Safety) and laid open the Holes for their re-planting, in order to be purify'd by the Sun: And in all your Plantations, avoid planting too deep; if the Root be cover'd, it is sufficient, unless the Ground be very light: Be sure observe not to cut the Heads of any Trees design'd for Timber. The best Soil for new planted Trees, is new dug Earth of a fat Mold.

The E L M.

There is no Tree bears Transplantation better than the *Elm*, that grows faster, or arrives to a more lofty Stature, with good Management. This Tree Mr. *Eveylen*, in his *Silva*, takes Notice, you may safely transplant at twenty Years Growth, if you totally disbranch him, and give him Plenty of Water during the Summer; but you ought never to cut the Top of an *Elm*, tho' you may thin the middle Branches of it in *January*, or at any other Time of the Year when the Sap is not at highest, to reduce it to Form. And when you remove your Tree, place it as near as may be to its accustom'd Aspect. These Trees are increas'd either by Suckers seperated and planted in *October*, or by Seeds gather'd in *March* or *April*; but the former Method it most commonly practis'd, and they may be propagated by knotty Pitchers cut off and set in *January*. When you raise them by Seeds, the best Method is to till or turn up the Ground round the Tree in a light Manner, and the Seed will drop and vegetate very quick;

quick; you may tranſplant them in two Years, keeping them clean from Weeds, and ſtirring the Earth round the Roots in the Winter, which you are to continue for at leaſt three Years; and in the Spring you may rub of the collateral Buds, to check the Superabundance of Sap that would prejudice the Root, before it is well eſtabliſh'd; which is to be obſerv'd in all other Plantations of Trees; and you are to cut thoſe rais'd by Seeds only the firſt Year, but then to within an Inch of the Ground. The *Elm* makes the moſt magnificent *Avenues* and *Walks* of any Tree; and delights in a ſound and fertile Land, ſomewhat moiſt.

The ASH.

This is the next beſt Timber to the *Oak*; and there's two Sorts of theſe Trees, diſtinguiſh'd by the Names of Male and Female: They grow in almoſt any Soil, tho' they thrive beſt in the richeſt Land. They are increas'd by Keys, that fall about the End of *October*; which being ſown very ſhallow, will ſhoot in about a Year's Time. When they are a Foot high, you may tranſplant them; but you are to prune them ſhort, which will add to the Quickneſs of their Growth. The *Aſh* is likewiſe increas'd by Pitchers. All Plantations of Trees are to be well water'd, during the firſt Summer, by pouring the Water at a Diſtance round the Tree, and not at the Stem, which would make a Paſſage for the Sun, to penetrate and injure the Root: And to prevent the ill Effects of ſcorching Heat, Heaps of Pot-Sherds, or ſuch like Rubbiſh, plac'd round the Stem of the Tree, will anſwer your Expectation; but then they are not

to

to continue long unremov'd, for fear of prejudicing the Tree, by harbouring Snails and Worms. The *Aſh* makes a moſt beautiful Walk, tho' it is not ſo lofty or fit for *Avenues* as the *Elm*.

The BEECH.

This Tree is more frequently to be met with in *Silva*'s Territories, than in domoſtick Walks or *Viſto*'s; where the Quantity of Maſt an entire Wood of them produceth, is very profitable by the Oil drawn and extracted from it; beſides the Uſe of the Timber in fine Turners Ware; but they furniſh ſtately Walks at ſome Diſtance from your Houſe, as in your Park or Grounds, contiguous to your Gardens, where they make an agreeable Variety: Theſe Trees are increas'd by the Maſt or Nuts, in the ſame Manner as the *Oak*; and almoſt any Soil is agreeable, but the Valleys are moſt natural to them: They grow to a very large Size.

The WALNUT.

The *Walnut-Tree* likewiſe affords a great of Profit, as well as Pleaſure; its rich and valuable Fruit, and excelling Timber for the Joyner's Uſe, is well known to all; and there are few that are ignorant, it makes an agreeable Avenue or Walk. It is rais'd by the Nut being ſet, for its Preſervation, in the green Husk; and is not to be tranſplanted without there be a neceſſity, and then not until it be four Years old, and taking Care not to cut the Head of the Tree. This Tree delights in a dry and healthy rich Land, a little upon the Chalk or Marl; and the moſt agreeable Soil, preſcrib'd for theſe Trees, is Aſhes.

The

The MULBERRY.

There is hardly any Fruit more delicious than what this Tree yields; and the Leaves are eſteem'd for their producing Silk-Worms. This Tree is propagated by Seed ſown in *May*, obſerving to give the young Plants three light Dreſſings or Diggings Yearly, about the Months of *April*, *June*, and *Auguſt*, the three proper Seaſons, and to cover them over with long Straw in the Winter. You are to prune them yearly, and keep their Heads from ſpreading, until they are about ſix Foot high, when they may be permitted to ſpread moderately; but keep them hollow like a Bell. When they are arriv'd to five Years Growth, you may ſafely tranſplant them, but without cutting the Root, tho' you may prune the Head a little. Theſe Trees love a light dry Ground, well expos'd to the Sun; and may be alſo increas'd by Layers; wherein you are not to leave above two Buds out of the Earth, and to give them conſtant Waterings.

The HONY-BEAM.

This Tree is of a very hardy Nature; it thrives beſt in the coldeſt Situation, and moſt barren Ground; and by its ſtately Hedge, being mix'd with the *Dutch Elm*, is no ſmall Addition to the Beauty of the Wilderneſs. There are very few Wilderneſſes or regular Groves without this Tree in the Walks, as it is not only beautiful in it ſelf, but fills up the Hedge ſo compleatly, that the niceſt Eye will have ſome Difficulty to penetrate through it; and it is with little Trouble kept in very

very exact Order, by the Uſe of the Garden-Shears. It is rais'd by Off-ſets cut about an Inch Diameter, within half a Foot of the Earth, or by Seeds ſown in *October*.

The LIME, POPLAR, &c.

The *Lime* is a fine Tree, and makes a pleaſant Walk or Avenue, having a ſtreight and delicate Stem, and a full beautiful Head. It delights in a rich Soil, and is increas'd either by Seeds ſown in *October*, or by Suckers, and is cultur'd much like unto the *Elm*. Some Authors are of Opinion, that theſe Trees are a fine Sort of *Elms*.

The *Poplar*, *Abele*, and *Aſpen*, come under the Name of *Æquatic-Trees*, and are frequently planted in Walks, eſpecially in a low moiſt Soil not too foggy, which is agreeable to them; and for their quick Vegetation, and lofty Stature, are truly valuable. They are rais'd by Truncheons, cut off about ſeven or eight Foot in Length, and ſet two Foot into the Earth, having firſt fill'd the Holes prepar'd for them with Water; or they may be increas'd by Slips or Suckers from the Roots. They are prun'd in *January* cloſe to the Body, and to within five or ſix Foot of the Top. The *Abele* is a fine white Sort of *Poplar*; but the *Aſpen* is a paler *Poplar*, and grows not ſo lofty as the others. They'll all arrive to full Perfection in about twenty Years.

Other Trees of leſs Note.

The *Maple-Tree* is rais'd by Keys, like unto the *Aſh*: And the *Sycamore* is only a Species of the *Maple*. The *Birch* is produc'd of Suckers.

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The *Haſel* is propogated by Nuts ſown like Maſt; but, to fill a vacant Place expeditiouſly, the beſt Method is to cut a Branch about half off near the Stump, and lay it down, placing it in the Ground, and covering it with Earth. The *Alder* (the moſt uſeful Timber to lie under Water) delights more in a watry Soil, than any other Tree; and is rais'd by large Truncheons cut about two Foot long. *Willows* are rais'd by Stakes of five or ſix Foot in length, being ſlop'd a little ſharp at the biggeſt End, and ſet two Foot into the Ground.

Obſervations relating to Pruning, &c.

I ſhall finiſh this Chapter with ſome Obſervations, or rather Maxims, relating to pruning. The Saw and Chiſel are the beſt approv'd Inſtruments for pruning the large Branches of Trees, and the Knife for the ſmaller ones. Obſerve to prune your old Trees early, and your young Trees late; and to cut the Branches of all Timber-Trees, except the *Oak*, clean to the Body; but then you are not to touch the Tops. Chooſe ſeaſonable Weather to perform this Work, a Medium between exceſſive heat and extream Cold; and for Ever-Greens, you are not to prune them until they have produc'd new Shoots, and the Roots have taken with the Ground: And for lopping of Trees, chooſe a Time when the Sap is down, and the Wind is at South or Weſt, for the North or Eaſterly Winds are very fatal to the ſucceeding Shoots.

Infirmaties of Trees, with Directions for their Cure.

For Diſeaſes and Infirmities of Trees, a diſcreationary Pruning and Tranſplantation are the

general

general Remedies: Blasted Parts and Canker are to be cut away to the Quick, and the Scars to be emplaster'd with Tar and Oyl mingled together, (the best Medicine for Wounds in Trees) or Clay and Horse-Dung. Bark bound may be relieved by making an Incision with your Knife, Rind-deep, from the Root of the Tree upwards, as far as you can reach, in *February*, and filling up the Slit with Cow-Dung. You may likewise disbranch your Tree a little.

Thus I have gone through my several Chapters of Flowers, flowering Shrubs, and their Culture; of *Exoticks*, *Perennial Greens*, and other tender Plants, with the Conservatories for them; of *Ever-Greens*; Plantations in *Avenues*, *Walks*, *Wilder-nesses*, &c. I come now to my *Kalendarium Hor-tense*, which compleats this Work.

Kalen-

Kalendarium Hortenſe:

OR,

The Gardener's Kalendar, *containing neceſſary Directions for the ſeveral Monthly Works in the* Parterre, Flower-Garden, *and* Kitchen-Garden, *throughout the* Year.

BEfore I enter upon my *Kalendarium Hortenſe*, I ſhall lay down ſome Rules univerſally approv'd for making of a hot Bed, which is ſo neceſſary for the Vegetation of all Manner of tender Plants, Flowers, *&c.* and ſo frequently mention'd in this Treatiſe, particularly in the enſuing *Kalendar.* The following Directions will ſerve for the making of a hot Bed fit for all Conveniencies.

In ſome Part of your Nurſery, Orchard, or Kitchen-Garden, well expos'd to the Sun, and 'tis ſo much the better if under a Warm Wall, defended from the North-Eaſt, and South-weſterly Winds, chooſe your Situation. Your Situation thus choſen, and the Extent of your Bed being mark'd out, as your Occaſion requires (wherein four Foot is the uſual Breadth) drive Stakes into the Ground on every Side, about a Foot aſunder; and being a Yard above Ground at leaſt, wind the

Stakes round with Rods in the Nature of Wattling, or rather with Rope made with Hay or Straw, then fill it with new Horſe-dung and wet Litter, (the Dung having been thrown up in one Corner of your Stable, 'till you have got a ſufficient Quantity) treading it down very hard at three ſeveral Times in the filling, ſo that the whole may be of an equal Hardneſs. Your Bed ſo made, fix your wooden Frames, fitted to the ſame for the Reception of the Mould, at Top, and for the Support of the Glaſs Frames for covering ſlope-ways; in the doing whereof, Care is to be taken that there be ſufficient Room left both for your Earth and the ſhooting of your Plants: Then put in rich ſifted Earth of the beſt Mould you can get, four Inches thick; or, what is preferrable to it, the Earth of an old hot Bed well rotted, The Bed muſt be cover'd with Matts, or Straw, ſupported with ſhort Sticks, and remain about a Week before it will abate its extream Heat, ſo as to be in a fit Temper for Uſe; which you may know, by thruſting a ſmall Rod as far into the Bed as you can, and then after its being in ſome Time, pull it out, and you may feel the Heat with your Fingers: It ought to be warm and not hot; and when the Heat leſſeneth at any Time, you may renew it by applying new Dung to the Sides of your Bed; or it may be done by ſtirring of the Bed. You may make a Bed to raiſe a Sallad in a few Hours, by the Aſſiſtance of powder'd Lime and hot Dung, the Dung being in the middle, and the Lime underneath and at top; and that cover'd with fine rich Mould.

When your Plants, Flowers, &c. are come up, be ſure you give them Air at proper Seaſons, and acquaint them with the Sun by Degrees; and when they

they are ſtrong, remove them either to a ſecond hot Bed, leſs hot, or into very rich Earth in your Garden, keeping them from the Mid-day Sun, 'till well ſettled, and giving them often but gentle Waterings. Your moveable Frames for hot Beds, ſo much approv'd, are very intelligibly deſcrib'd by Mr. *Laurence*, in the ſecond Part of this Work.

JANUARY.

The Works in the Parterre and Flower-Garden, are very few at this ſevere Time of the Year. About the middle of this Month, you may plant your late *Anemonies* and *Ranunculus's*; and preſerve from continual Rains, and other bad Weather, your earlier Sorts of thoſe Flowers ſown in *September*, and your *Carnation* and other Seeds, by Mattings, or other ſupported Coverings. New Earth, with light Mould, the Roots of *Auricula's* where 'tis wanting, and fill up the Chinks round the Sides of the Pot. You may plant in this Month *Roſes*, *Woodbines* and *Virgin's Bower*. Keep your Greens warm in your Conſervatory, ſet up Traps for Vermine, and pick Snails from Fruit-Trees, *&c.*

In the Kitchen-Garden prepare Soil, and uſe it where there is Occaſion: Trench Ground in a Readineſs for the Spring; dig Borders, and continue to uncover Roots of Trees; plant Quickſets, and tranſplant Fruit-trees; ſet Vines, and begin to prune the old ones: Prune the Branches of long planted Fruit-Trees; and if you have Occaſion to cut off a whole Branch or Limb, cut it cloſe to the Body of the Tree, that the Bark may the ſooner cover it. Keep your Wall and Palliſade-Trees from mounting too haſtily; take away

way the ſhaded Under-Boughs of Standards that remain ſmooth without Buds; where Branches are ſo thick that they gall one another, thin thatPlace with Diſcretion, but forbear pruning Wall-Fruit-Trees, that are tender, until the next Month. You may begin to nail and trim your Wall-Fruit. Gather Cions for Graffs from plentiful bearing Trees not young, before the Buds ſprout; and graff Pears, Cherries and Plumbs in the Stock, at the latter End of the Month. Remove your Kernel Stocks to more commodious Diſtances in your Nurſery, and lay Slips of Trees. Cleanſe the Moſs, *&c.* from Trees in a moiſt Seaſon. Sow early *Colly-Flowers*; ſow *Chervil*, *Lettuce*, *Raddiſh*, and other fine Sallading in hot Beds. Set early *Beans* and *Peaſe*, &c.

The Produce of this Month is ſmall. We have (of Flowers) *Cyclamen*, *Hellebore*, early *Winter-Hyacinth*, *Hepatice*, *Primroſes*, *Mezereon-Flowers*, &c. In the Olitory, *Carrots*, *Turnips*, *Parſnips*, &c. and *Cellery*, *Onions*, *Chervil*, *Mint*, *Creſſes*, &c. in hot Beds. And ſome Winter Apples and Pears in the Orchard.

FEBRUARY.

Sow in the Parterre and Flower-Garden, ſome *Aricula* Seeds, and your *Alaturnus* Seeds in Caſes or open Beds, defended from Winds, and ſecur'd from great Rains; ſo likewiſe your *Larkſpurs*, and *Fraixnella* Seeds; plant *Cowſlips*, *Oxſlips*, &c. Give your hous'd *Carnations* frequent Airings in warm Weather, and mild Showers of Rain; but place them in your Conſervatory at Night: Keep cloſe your Green-houſe; water *Orange-Trees*, &c. that if Neceſſity require it, with Water wherein Sheeps

Dung

Dung hath been ſteep'd two or three Days in the Sun; but let it not touch the Leaves which would deſtroy them. Continue to ſet Traps for Vermin, &c.

In the Kitchen-Garden prune Fruit-Trees; for now is the Seaſon to Bind, plaſh and nail, without Hazard; wherein endeavour to apply the collateral Branches of Wall-Fruit as near as may be to the Ground, which will advantage the ſpreading of the Tree. RemoveGraffs of former Years; cut and lay Quickſets; trim up Paliſade-Hedges; continue to plant Vines; ſet all Sorts of Kernels and ſtony Seeds; lay Branches to take Root; earth up the Roots of uncover'd Fruit-Trees; drain away ſuperfluous Moiſture from Roots of Fruit-Trees, which occaſions Moſs, &c. About the latter End of this Month graff *Apples, Pears, &c.* in the Clift, and ſo continue till the latter End of *March*, when the Sap riſes briskly; the New Moon is the beſt Time, and the Old Wood is moſt fit to be choſen. Plant out your early *Colly-Flowers*; ſow early Sallading in hot Beds; prepare your hot Beds for the firſt *Melons*, and *Cucumber:* : Sow *Peaſe, Beans, Marigolds, Annis-Seed, Radiſh, Spinage, Aſparagus, Parſnips, Carrots, Onions, Garlick*, &c. and plant *Potato's*; plant out your early *Cabbage* Plants. Continue to rub off Moſs from Trees after a Shower of Rain, and ſcrape and cleanſe them from Cankers, *&c.*

For Produce of this Month we have of Flowers, *Anemonies*, ſome early *Double-Tulips*, and *Hyacinths*, the *Vernal-Crocus, Black-Hellebore, Hepatica, Perſion-Iris, Cyclamen, White* and *Red Mezerions, Bulbous-Violets*, early *Daffodils, Primroſes, Oxſlips, &c.* In the Olitory-Garden, Sallads, Radiſhes, *&c.* and

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in the hot Beds, you may have *Aſparagus*; and in your Orchard, a few *Apples* and *Pears*.

MARCH,

In the Parterre and Flower-Garden, ſtake up your weak Plants, to defend them from the Winds; ſow *Auricula-Seeds*, *Carnations* and *Pinks*; ſow likewiſe *Stock-Gilliflower* Seeds in the Full of the Moon for double Flowers, and towards the latter End of the Month, ſow late-bearing Flowers, and your rare *Exotick* Plants in hot Beds: Plant late-bearing *Anemonie* Roots, watering them well once in two or three Days, if the Weather be dry; ſet into the Ground the Roots of *Marvel of Peru*, tranſplant fibrous-rooted Flowers, ſuch as the *Auriculus Narciſſus*, *Tuberoſe*, *Hepatica*, *Gentianella*, *Hellebore*, and other Summer Flowers: Slip Wall-Flowers, *Lupines*, *Jeſſamines*, *&c.* You may likewiſe tranſplant *Carnation* Seedlings, in freſh Earth, obſerving to ſet them in the Shade for a Week. Carry into the Shades your *Auricula's* Seedlings, and other choice Plants in Pots: Cover choice *Tulips*, *Anemonies*, *Auricula's* and other tender Flowers and Ever-Greens, with Mats or Canvas, &c. from the farwel Froſts and Eaſterly Winds; but about the End of the Month, you may uncover your choiceſt Plants, tho' with great Caution; and ſo likewiſe at all other Times in benign Seaſons. Plant *Box*, *&c.* in Parterres; ſow *Pine-Kernels*, *Fir-Seeds*, *Bays*, *Alaternus*, *Phylirea*, and moſt Sorts of Perennial Greens, *&c.* And if the Weather be both moiſt and mild, you may tranſplant the hardieſt Sorts of *Ever-Greens*. At the latter End of this Month, you may lay open the Doors and Windows of your Green-Houſes and Conſervatories

ries in the Middle of the Day, for eight or ten Days, to acquaint them gradually with the Air; but truſt not too confidently to the Nights, unleſs the Weather be thoroughly ſettled.

In the Kitchen-Garden, you may graff all this Month *Apricots*, *Nectarines*, and *Peaches*, *Pears*, *Apples*, *&c.* unleſs the Spring be very forward; prune young *Murals*, and other tender Wall-Trees; prune laſt Year's Graffs, and cut off the Heads of budded Stocks; top *Roſe*-Trees; cut Quickſets; plant *Peaches* and *Nectarines*; ſtir new planted Ground. In the Middle of this Month, dreſs up your *Strawberry*-Beds, keeping them clean from Runners 'till they bloſſom; give them Watering when neceſſary; in a very dry Seaſon you can't well water them too much; and in watering of Flowers, *&c.* newly planted, do it at a convenient Diſtance, not over-haſtily, or with too great a Stream, and ſo as to moiſten the Ground without affecting the Leaves, which would cauſe them to ſcorch: Uncover *Aſparagus*, and looſen the Mould about them, giving them a little freſh Manure: You may now likewiſe tranſplant *Aſparagus* Roots for new Beds: Uncover your *Artichokes* cautiouſly, and ſo likewiſe your *Fig*-Trees, taking off the dead Wood: In your hot Beds, ſow Seeds of *Melons*, *Cucumbers*, *&c.* which eight Days after ſown will be fit to be prick'd forth at Diſtances; keep your hot Bed as much as is poſſible from Rain. Sow in the Beginning of this Month *Endive*, *Succory*, *Leeks*, *Radiſh*, *Beets*, *Parſnips*, *Skirrets*, *Chervil*, *Sampier*, *Parſley*, *Sorrel*, *Borrage*, *Sellery*, *Smallage*, &c. ſow alſo *Lettice*, *Onions*, *Garlick*, *Purſlain*, *Turnips*, *Monthly Peaſe*, *Carrots*, *Cabbages*, *Creſſes*, *Marjoram*, *Baſil*, &c. plant *Artichoks*, *Strawberries*, *Cabbage-Plants*,

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and tranſplant the *Beet Chard*, and any Sort of Medicinal Herbs; ſlip and ſet *Sage*, *Roſemary*, *Thyme*, &c. Where the Soil is Clay, or over-moiſt, mingle it plentifully with Brick-Duſt.

The Products of this Month, are of Flowers; the *Violet*, *Anemonie*, *Spring-Cyclamen*, *Hepatica*, *Tuberous Iris*, *Hyacinth*, *Narciſſus*, *Junquil*, *Dutch Mezerion*, *Perſian Iris*, *Præcoce Tulips*, *Arbor Indæ*, *double and ſingle Primroſes*, *Wall-Flowers*, &c. In the Olitory, *Lettice*, *Radiſhes*, &c. *Aſparagus*, *Colliflowers*, &c. and in the Orchard ſome *Apples* and *Pears*.

APRIL.

In this Month, whatever you have a Mind to plant or ſow, the Earth is fit to receive: In the Parterre and Flower-Garden, ſow *Columbines*, *Hollihocks*, *Lupines*, and other Annuals, to have Flowers all the Summer; continue to ſow *Pinks*, *Carnations*, and trim the old Roots from dead Leaves; tranſplant fibrous Roots left unfiniſh'd in *March*, for this is the better Seaſon; continue to ſow *Pine*-Kernels, *&c.* and perennial Greens; continue likewiſe hot Beds for Exoticks and other tender Plants; ſlip and ſet *Marum*; take out of your Conſervatory the *Indian Tuberoſes*, parting the Off-ſets with Care: Set out and expoſe the *Flos Cardinalis*, *Water Anemonies*, *Renunculus's*, and other Plants in Pots and Caſes once in two or three Days, if the Seaſon requires it. Prune *Anmonies*, &c. and *Carnations* where they mat too thick; and defend from violent Storms, Remains of Froſts by Night, and ſcorching Heat of the Sun by Day, your *Tulips*, *Anemonies*, *Auricula's*, &c. The Beginning of this Month, prune

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the Tops of ſuch Trees as have ſhot above four or five Inches; graff by Approach *Oranges*, *Lemons*, *Pomegranates*, *Jeſſemines*, &c. and towards the End of the Month you may, if you think fit, tranſplant and remove thoſe tender Shrubs, they having firſt began to ſprout, and taking Care to place them a Fortnight in the Shade: At this Time, if the cold Winds are paſt, you may clip your *Philyreas*, *Alaternus*, *Myrtles*, *Cypreſs*, *Box*, &c. after a Shower of Rain, and water the *Box* on its Clipping, to prevent the ill Smell. In the Beginning of this Month bring your choice and tender Shurbs, *&c.* out of your Conſervatory, chuſing a fair Day for that Purpoſe; but your *Orange*-Trees may remain in the Houſe 'till *May*, unleſs the Weather prove very kind: When you bring out your *Orange*-Trees, give them a Refreſhment of Water, heated Blood-warm, which is the fitteſt Temper upon all Occaſions; for cold Water, eſpecially Spring and Pump Water, are very pernicious; about four Gallons of Water will ſerve twenty Trees. Keep your Garden clean; and digging Borders half Spit deep, and ſtirring the Earth about *Mural* Trees, is a very goodCulture, and the moſt effectual Method to deſtroy the Weeds.

In the Kitchen-Garden, ſow *ſweet Marjoram*, *Hyſop*, *Baſil*, *Thyme*, *Winter-Savory*, &c. (ſtirring up the Earth, and giving them new Mould) and all fine and tender Seeds that require the hot Bed. Sow likewiſe *Radiſh* and *Carrots* together in the ſame Bed; and *Lettice*, *Purſlain*, *Sampier*, *Parſnips*, *Carrots*, &c. on the ſame Ground, gathering each Kind in their Seaſons, and changing the Ground for *Carrots* and *Parſnips* now and then; thin and weed them when about too Inches high:

Dreſs *Artichokes* when they are a little ſhot forth, and plant the Slips, &c. Plant out *Colliflowers*, ſet *French Beans*, ſow early *Turnips*; continue to ſlip *Roſemary*, *Thyme*, *Sage*, *Lavender*, &c. and the oftner you clip them, the better they thrive: Now give the *Peach* a ſecond Pruning, ſhortening the Branches juſt above the knit Fruit; prune *Strawberries*; and to have Salladding all the Year, ſow *Turnip*-Seed, *Radiſh*, *Lettice*, *Purſlain*, *Borrage*, *Tarragon*, &c. in very rich Ground, and in the Winter on hot Beds cover'd, *&c.* which being drawn Root and all as ſoon as they open in a ſmall Leaf, make an excellent Sallad; this you may repeat Monthly. Towards the Middle and latter End of this Month, begin to plant forth *Melons* and *Cucumbers* in your Ridges well prepar'd for them, (keeping them moderately water'd in a dry Seaſon, from their firſt Riſing to their Ripening) and ſow Seeds for a ſecond Crop; ſow and tranſplant *Radiſhes*, *Lettices*, &c. every Fortnight.

For Produce we have in this Month, of Flowers, *Anemonies*, *Ranunculus's*, *Auricula's*, *Crown-Imperials*, *Cyclamen*, *Bell-Flowers*, *Gentianellas*, *Hypericum Frutex*, *double Hepaticas*, *Florence Iris*, *Tufted Narciſſus*, *Cowſlips*, *Lady's Smocks*, *Medias Tulips*, *Perſian Lillies*, *Peones*, *double Jonquils*, *Perſian Jeſſamine*, *Lilac*, *Cherry* Bloſſems, *Peach* Bloſſoms, *&c.* In the Olitory we have *Aſparagus*, *Cucumbers*, &c.

MAY.

Sow *Clove-Gilliflowers* in the new of the Moon, and plant *Stock-Gilliflowers* in Beds, full Moon; plant ſingle *Anemonies*, tranſplant your *Amaranthus's*; prune *Jeſſamines* cloſe within half an Inch;

cut

cut the Stalks of ſuch bulbous Flowers you find dry; ſhade *Carnations* and *Gilliflowers* after Mid-day; continue watering *Ranunculus's*; and to-wards the End of the Month take up thoſe *Tulips* which are dry'd in the Stalks; cover the Roots of thoſe you find bare; and if you find any to be canker'd, burying them in the Earth is the beſt Remedy; gather ſuch *Anemonies* Seed which you find ripe; plant and remove Winter-Greens, and tender Shrubs. Now you may bring your *Orange*-Trees, and more tender Curioſities, out of your Green-houſe, and expoſe them with Safety, eſpeci-ally when you obſerve the *Mulberry*-Tree begins to put forth and open its Leaves; when you may likewiſe tranſplant and remove them without Dan-ger, bruſh and cleanſe them from Duſt; thoſe you don't take out, freſh Earth them with rich Soil a-bout a Hand's Depth, and looſen the reſt of the Earth; and thoſe you take out, if you don't tranſplant or remove them, amend the Surface of the Earth for about an Inch or two in Depth, with well conſum'd Cow-Dung: When you tranſplant or remove *Orange*-Trees, *&c.* Do it carefully, without injuring the Body; let the Caſes be fill'd with a Compoſition of natural Earth, taken juſt under the Turf of a well-fodder'd Paſture-Ground, and Cow-Dung or Horſe-Dung well rotted; or ſome uſe with it very mellow Soil skreen'd; if this be too ſtiff, ſift a little Lime or Cole-Aſhes with it; and ſome add a third Part of the Bottom of Tanners Pits to their *Orange* Compoſts, where to be had; but where there is to be found a natu-ral Earth with an Eye of Loam in it, mix it with well-conſum'd Horſe-Dung, and ſomething of a drying Nature, as Sea-Coal Aſhes, and you need ſeek no farther. When your *Orange*-Trees are ſo

remov'd

remov'd, give them frequent Waterings, but without wetting either the Stem or the Leaves; ſet them in the Shade for a Fortnight, and then acquaint them with the Sun by Degrees.

In the Kitchen-Garden, continue to ſow ſweet *Marjoram*, *Baſil*, *Thyme*, &c. ſow *Purſlain*, *Lettice*, *Endive*, *Radiſhes*, &c. plant out *Cabbages* and *Colliflowers*, *Sellery*, and *Beet Chard*; tranſplant *Samphire* under a South-Wall; look carefully to your tranſplanted *Melons*, and at the latter End of the Month you may venture to uncover them: Graff *Fig*-Trees by Inarching; prune *Fig*-Trees, and give a third Pruning to *Peaches*, taking away and pinching off unbloſſoming Branches; and remember to take away all dry'd wither'd Branches from Wall-Trees, and to cleanſe them from Snails, *&c.* water new-planted Trees, *Aſparagus*, &c. if the Weather be dry. You may in this Month begin to Inoculate if you find your Buds ready.

In this Month we have in the Parterre of Flowers, ſome *Anemonies* and *Ranunculus's*, *Roſes*, *Pinks*, *Tulips*, *Columbines*, *Iris's*, *Fraxinella's*, *Shrub Night-Shade*, *Peonies*, *Lillies*, *Lady's-Slipper*, *Stock-Gilliflowers*, *Star-Flowers*, *Bell-Flowers*, *Fritillaries*, *ſtarry Jacinths*, *Gentianella's*, *Auricula's*, *Wall-Flowers*, *Snap-Dragons*, *Campanella's*, *Mollis*, *Honey-Suckles*, &c. In the Kitchen-Garden you have Sallading, *Aſparagus*, *Cucumbers*, *Peaſe*, *Strawberries*, &c. And in the Orchard *Apples* and *Pears*, and ſome early *Cherries*.

JUNE.

In the Parterre and Flower-Garden, ſow ſome Annuals for late Flowering; tranſplant your Autumnal

Autumnal *Cyclamens*; take up the *Iris Chalcedon*, and alſo your choiceſt *Anemonies* and *Ranunculus*'s after Rain, the Stalks being wither'd; take up your *Tulip* Bulbs, and bury ſuch as you find naked; take up all Plants and Flower Roots as will not endure to be out of the Ground, and replant them immediately, ſuch as the early *Cyclamen*, the *Jacinths*, *Iris*, *Crown-Imperial*, &c. ſet Slips of *Myrtle* in ſome cool and moiſt Place: In the Middle of this Month inoculate *Jeſſamines*, *Roſes*, and ſome other rare Shrubs; ſow *Anemonie* Seeds; begin to lay your *Gilliflowers*; gather ripe Flower-Seeds worth ſaving, as the *Auricula*'s, *Ranunculus*'s, &c. Shade your *Carnations* from the Afternoon Sun: Preſerve *Gilliflowers* now blown, for Seeds, that they may have Sun enough to ripen.

In the Olitory-Garden, ſow *Lettice*, *Charvil*, *Radiſhes*, &c. for young Sallading. About the Middle of this Month, inoculate *Peaches*, *Apricots*, *Cherries*, *Plums*, *Apples*, *Pears*, &c. Cleanſe Vines of exuberant Branches; gather Herbs in the full of the Moon, to keep dry, drying them carefully in Heaps, by often turning as you do Hay, whereby they'll retain their Virtue and Smell: And to preſerve the Colour of Herbs and Flowers, dry them in the Shade, ſhewing them to the Sun a little only to prevent their being muſty: Water lately planted Trees, and put moiſt and half-rotten *Fern*, *&c.* about the Foot of the Stems, to preſerve them from Droughts; for the ſcorching Sun, as well as bad Weather, in this and the two former Months, do frequently endanger the Fruit. Sick Trees, ſuch as *Orange*-Trees. *&c.* impair'd by removing, and other Accidents, are many times recover'd by a Milk-Diet, as Mr. *Evelyn* calls

calls it; that is, diluting with a Portion of Water diſcreetly adminiſter'd; ſometimes alſo by plunging them in the hot Beds, or by letting the Tree down into a Pit of four or five Foot in Depth, covering the Head and the reſt of the Tree. Water your *Melons*, *Cucumbers* &c. Stir up ſtiff Ground, to preſerve it from chopping.

The Products of this Month are, of Flowers, your *Lillies*, *Molies*, *Carnations*, *Aſphodils*, *Iris*'s, *Cornflags*, *White Hellebore*, *Bell-Flowers*, *Pinks*, *Sweet Williams*, *Campions*, *Queen Gilliflowers*, *Columbines*, *Snap-Dragons*, *Larks-Heels*, *Sultans Flower*, *Stock-Gilliflowers*, *Hollihocks*, *Martagons*, *Spaniſh Broom*, *Jeſſamines*, *Fraxinella*'s *Woodbines*, *Roſes*, &c. In the Kitchen-Garden, *Peaſe*, *Artichokes*, *French Beans*, *Cabbages*, *Cucumbers*, *Melons*, and all Sorts of Kitchen-Herbs, *&c.* *Strawberries*, *Rasberries*, *Goosberries*, *Currans*, *Cherries*; and in the Orchard *Apples* and *Pears*.

JULY.

In the Parterre and Flower-Garden, ſow *Anemonies*, keeping them temperately moiſt; ſlip Stocks and other lignous Plants and Flowers; lay *Carnations* and *Gilliflowers*, which you may continue to do 'till *Michaelmas*; continue to lay *Myrtles*, *Laurels*, and other curious Greens: Graff by Approach, inarch and inoculate *Jeſſamines*, *Oranges*, and other choice Shrubs; refreſh the Surface of the Caſes of *Orange*-Trees, *&c.* Sift your Beds for Off-ſets of *Tulips*, and other bulbous Roots, and alſo for *Anemonies*, *Ranunculus*'s, &c. remove ſeedling *Crocus*'s lown in *September*; continue to cut off wither'd Staiks of low Flowers, and to cover with Earth the bare Roots, *&c.*

Take

Take up your early autumnal *Cyclamen*, *Tulips*, and *Bulbs*; but ſeperate not the Off-ſets of *Tulips*, &c. 'till the Mother *Bulb* be fully dry: Take up likewiſe ſome *Anemonies*, *Ranunculus*'s, *Crocus*'s, *Iris*'s, *Crown-Imperials*, and *Colchicums*, but replant the three laſt as ſoon as you have taken them out of the Ground; as you may the *Cyclamens*, but you may ſtay 'till *Auguſt* or *September*, e'er you take them up: Gather *Tulip*-Seeds, and let it lie in the Pods; gather alſo your early *Cyclamen* Seed, and ſow it preſently in Pots. Water new planted Shrubs and Layers, *&c.* as *Orange*-Trees, *Myrtles*, *Amomums*, &c. which laſt you cannot refreſh too often. Clip *Box*, &c. after Rain. In a dry Seaſon, take Lime, and Brine, and Pot-Aſhes decocted in Water, and caſt it on your Graſs Plots, which will deſtroy the Worms, and improve the Graſs; and a Decoction of Tobacco Refuſe, will deſtroy both Worms and Weeds in Gravel Walks, and cure them, Mr. *Evelyn* tells you, for ſome Years.

In the Kitchen-Garden, ſow Winter Herbs in the new of the Moon; continue to ſow *Lettice*, *Radiſh*, &c. for tender Sallading; and to inoculate Fruit. Remove *Cabbages* for Autumn, and cut off all putrify'd Leaves from them; give plentiful Refreſhments to your Wall-Fruit Trees, pouring it gently into Holes made at a proper Diſtance from the Stems; water young-planted Trees and Layers, *&c.* and reprune *Apricots* and *Peaches*, ſaving young Shoots to ſucceed the Bearers and purge your Trees from Snails, and alſo ſuperfluous Leaves, which keep the Sun from the Fruit, but leave ſufficient to skreen and defend them; and towards the latter End of the Month, ſtop the exuberant Shoots of Vines, (if not finiſh'd before;) hang Bottles of Beer mingled with

Honey near your *Nectarines*, and other tempting Fruits, to deſtroy the Waſps; let ſuch Olitory Herbs run to Seed as you would ſave; ſow latter Peaſe; continue to cleanſe all Parts of your Garden, and let not your Hough be idle when the Weeds begin to peep.

We have in this Month, of Flowers, *Carnations*, *Aſphodils*, *Larks-Heels*, *Indian Creſſes*, *Marvel of Peru*, *Hollihocks*, *Stock-Gilliflowers*, *Cardinals Flower*, *Paſſion Flower*, *Fraxinella's*, *Snap-Dragons*, *Mallies*, *Lychnis Chalcedon*, *Amaranthus's*, *Gentiana*, *Corn-flags*, *Tuberous Hyacinths*, ſeveral Sorts of *Roſes*, *Jeſſamines*, *Wood-bines*, *Virgins-Bower*, *Oranges*, &c. In the Kitchen-Garden, *Cucumbers*, *Melons*, &c. the ſame as in the Month of *June*; and ſome *Peaches*, *Figs*, *Plums*, *Cherries*, *Apples*, *Pears*, &c.

AUGUST.

In the Parterre and Flower-Garden, plant *Anemonie* Roots for Winter Flowers, and tranſplant the Seedlings of laſt Year; plant Autumnal *Crocus's*, ſow *Narciſſus's* and *Orential Jacinths*. About the Middle of this Month new Earth, and tranſplant *Auricula's*, dividing the old Roots; and you may alſo ſow *Auricula's*; ſow in Caſes *Anemonie* Seeds, *Ranunculus's*, &c. and alſo *Hyacinths*, *Hepatica's*, *Iris's*, *Fritillarias Martagons*, *Tulips*, &c. lighty covering the Seeds with fit Mould: Continue to take up Bulbs of Flowers; take up your bulbous *Iris*, and ſow their Seeds as alſo the Seeds of *Lark-Heels*, *Candy-Tufts* *Hollihocks*, and ſuch Plants as endure Winter; continue to ſlip *Gilliflowers*. Now is the Seaſon for budding the *Orange*-Trees, wherein you may cut off the Head of an old Tree for good

Buds;

Buds; and 'tis good to inoculate at the Commencement of this Month: And about *Bartholomew*-Tide is the only ſecure Seaſon for removing and laying out your *Perennial Greens, Oranges, Limons, Myrtles, Philyreas, Jeſſamines, Pomegranates*, monthly *Roſes*, and whatever is very obnoxious to Froſts; taking the Shoots in the Spring, and pegging them down in rich Earth, and well-conſum'd Soil; and being well water'd in a Twelve-month, they'll be fit to remove. Plant *Roſes, Wood-bines*, and other Trees that are apt to bud before Winter; gather *Alaternus* Seeds, and Seeds of other Shrubs that are ripe, ſpreading them to ſweat and dry before you put them up.

In the Kitchen-Garden, ſow *Radiſhes, Cabbages*, and *Colliflowers*, for Winter Plants; ſow *Corn-ſallad, Marigolds, Lettice, Carrots, Turnips, Parſnips, Spinage, Onions, Endive*, &c. ſtrip the Leaves of *Beets, Carrots, Parſnips*, &c. to improve the Roots; pull up ripe *Onions* and *Garlick*; plant *Strawberries*, and pluck up *Strawberry* Runners; extirpate the tall Stalks, and purge the old Tufts; plant *Saffron*, tranſplant *Lettice* for the Winter; pull the Roots of Plants a little out of the Ground, covering them with Mould, to keep them from running over-haſtily to Seed; *Colliflowers* overſpreading, ſhould be quite eradicated; and if they are bury'd in a Cellar, both Root and Stalk up to the Head, they will perfect their Growth without the Sun, or expoſing Abroad; unbind and releaſe the Buds you inoculated, and ſtop and prune them; you may now prune ſuperfluous Shoots of this ſecond Spring, and cleanſe Vines from exuberant Branches, that too much hinder the Sun; pull up the Suckers; and you may con-

tinue the Work of Inoculation in the Beginning of this Month; cut away the Stems of old *Artichokes*; clip bearing *Roses*; gather Olitory Seeds, clipping the Herbs within one Handful of the Ground, before the Full of the Moon.

For Produce, we have, of Flowers, the *Indian Hyacinths, Carnations, Star-Flowers, Asphodils, Autumnal Cyclamens, Bell-Flowers, Champions, Gilliflowers, Hollihocks, Amaranthus's, Larks-Heels, Indian Cresses, Marvel of Peru, Geranium noste olens, everlasting Pease, Lupines, African Marigolds, Virginian Martagons, Spanish Bells, Campanella's, Afrigans, Colchicums, Autumnal Hyacinths, Monthly Roses, Oleanders. Jessamines, Oranges. Pomegranates, Shrub-Spirea, Maricoc, Senna*-Tree, &c. In the Olitory Garden the same Produce as the preceding Month, and *Peaches, Nectarines, Apricots, Figs, Plums, Apples, Pears*, and some *Grapes* and *Mulberries.*

S E P T E M B E R.

In the Parterre and Flower-Garden, you may plant *Anemonies* of all Sorts, after the first Rains; but it is surer to defer this 'till *October* or *November*, for fear of over Moisture; begin to plant some *Tulips*; plant *Daffodils*, and all fibrous Plants; transplant *Cyclamen*, the *Iris Chalcedon, Violets, Primroses*, &c. sow *Auricula's* Seed; continue to sow *Alaturnus* and *Philyrea* Seeds, (or you may forbear 'till Spring) *Tulips, Iris's, Crown-Imperials, Martagons, Candy Tufts*, and other Annuals that will bear Frosts; sow *Crocus's*; transplant *Ever-Greens*, and other rare Shrubs of the last Month; take off Layers of *Gilliflowers*, and plant them Abroad in Pots; bind up Autumnal Flowers

and

and Plants to Stakes; you may prune *Pines* and *Firs* omitted in *March*; ſet your *Cardianals* Flowers in Pots for Convenience of houſing; remove your *Tuberoſe* Pots into your Conſervatory, and keep them dry, or rather take the Roots out of the Pots, and preſerve them in dry Sand, or in Paper kept in a Box in ſome dry Place near the Chimney, for they will not endure the Wet of this Seaſon. About *Michaelmas*, as the Seaſon requires, bring your *Oranges*, *Limons*, and other choiceſt Greens and Plants, into your Green-Houſe, (ordering them with Mould as directed in *May*) but leaving open your Doors and Windows 'till the Cold is more intenſe; ſet ſuch Plants as will not endure the Houſe, into the Earth; the Pots two or three Inches lower than the Surface, *&c.* as directed at the End of the fourth Chapter, treating of Conſervatories, *&c.* Dig up Flower-Beds, that want to be renew'd,

In the Kitchen-Garden, ſow *Lettice*, *Radiſh*, *Spinage*, *Chervil*, *Parſnips*, *Skirrets*, &c. and alſo *Colliflowers*, *Cabbages*, *Onions*, &c. Sow likewiſe Winter Herbs and Roots, and you may yet ſow *Turnips*, plant *Strawberries* out of the Woods, letting them at leaſt a Foot aſunder; tranſplant moſt Sorts of Eſculent and Phyſical Plants, and alſo *Artichokes* and *Aſparagus* Roots; bind up, and blanch *Sellery*, *&c.* in dry Weather; you may ſtill releaſe inoculated Buds. Towards the End of this Month, earth up Winter-Plants, *&c.* Plant forth *Colliflowers* and Nurſery *Cabbages* (ſown in *Auguſt*) under Shelter; prepare Compoſt, *&c.* Gather ſuch Winter-Fruits as are ripe, in dry Weather.

The Flowers which we have in the Parterre this Month, are *Amaranthus*'s, *Stock-Gilliflowers*, ſome *Carnations*, *Hyacinths*, *Marvel of Peru*,

Peru, *Crocus's*, *Cholcicums*, *White Aſphodils*, *Campanula's*, *Sun-flowers*, *Indian Lillies*, *Molies*, *Autumnal Narciſſus*, *Scarlet Beans*, *Candy Tufts*, *Veronica*, *Poppies*, *Indian Pinks*, *Paſſion-Flower*, *Amomum Plini*, *Jeſſamines*, *Monthly Roſes*, *Oranges*, *Myrtles*, &c. In the Olitory, we have *Endive*, *Succory Cabbages*, *Artichokes*, *Pompions*, *Melons*, and ſome *Cucumbers*. In the Fruit-Garden, *Peaches*, *Figs*, *Grapes*, *Apples*, *Pears*, &c.

OCTOBER.

In the Parterre and Flower-Garden, plant your *Ranunculus*'s in freſh Earth, and *Anemonies* delay'd in the laſt Month, and as ſoon as they appear, ſecure them from the Winds and Froſts, with dry Straw or Mats: Now plant your choice *Tulips*, &c. in natural Earth, impoveriſh'd with fine Sand; and all Sorts of Bulbous Roots may now ſafely be interred; plant alſo your *Vernal Crocus*'s, *Iris*'s, &c. You may yet ſow *Alaternus* and *Phylirea* Seeds; continue ſowing what you did in *September*; you may continue alſo to remove *Gilliflowers*, *Hollihocks*, *&c.* and if the Seaſon be mild, you may prune *Roſe-Trees*, and other hardy Plants; preſerve your *Carnations* from too much Moiſture, and trim them with freſh Mould; carry into the Conſervatory your *Narciſſus*, *Tuberoſe*, and the *Myrtles*, and other remaining Green-Houſe Plants; cleanſe your Walks from autumnal Leaves; finiſh your laſt Weeding, &c.

In the Kitchen-Garden ſow *Genoa*, *Lettice*, *Radiſhes*, &c. plant out your *Cabbage* and *Colewort* Plants; and in the next Month tranſplant *Cabbages* in Turf; ſow all ſtony and hard Kernel-Seeds, covering

vering them with Fern or Straw, to keep them warm in the Winter; or you may defer this Work 'till the next Month. Remove Graffs off the ſecond Year, unleſs it be Dwarfs, which are to ſtand 'till the third: Towards the latter End of the Month, plant *Apricots*, *Cherries*, *Plumbs*, *Vines*, *Winter-Pears*, *&c.* all Sorts of Trees which have loſt their Leaves; lay bare the Roots of Old unthriving, and haſty-blowing Trees; ſtir up new planted Ground; trench Ground to lye for a Winter-mellowing; carry Dung into your Kitchen-Garden, and ſpread it.

For Produce, we have now of Flowers, the *Tuberoſe*, *Hyacinth*, *Marvel of Peru*, *Autumnal-Narciſſus*, *Perſicums*, *Violets*, *Veronica*, *Jeſſamines*, *double Virgins-Bower*, *Amomums*, *Saffron* Flowers, *Cyclamens*, *Amaranthus's*, *Stock-Gilliflowers*, the *Strawberry-Tree*, *Myrtles*, *Pomegranets*, *Monthly-Roſes*, *Oranges*, *&c.* In the Kitchen-Garden we have *Endive*, *Succory*, *Beet*, *Chards*, all manner of green Pot-herbs and Roots; and *Grapes*, *Plumbs*, *Apples*, *Pears*, *&c.*

NOVEMBER.

In the Parterre and Flower-Garden, ſow *Auricula's* Seeds; plant your faireſt *Tulips* in Places well ſhelter'd; cover your *Peeping Ranunculus's*, tranſplant the ordinary Sorts of *Jeſſamines*; plant *Roſes*, *Syringo's*, *Peonies*, *&c.* and alſo the fibrous Roots, ſpecify'd in the preceding Month; ſow all ſtony Seeds; plant all Sorts of Trees for Walks ane Avenues, and you may tranſplant Fruit-Trees, or remove any other large Vegetables, which you may likewiſe do in the Midſt of Summer, taking up the Trees with Mould about the Roots, and imme-

immediately plunging them into moiſt Earth beat to Pap like Mortar, keeping them ſhaded and freſh 'till Rain comes. Houſe your choiceſt *Carnations*, or rather ſet them under a Pent-Houſe againſt a South-wall for the Benefit of the Air, covering them in Extremity of Weather. About the middle of this Month, or ſooner, if the Weather require, quite encloſe your tender Plants in your Conſervatory, ſecluding all Entrance of cold and ſharp Winds; and if any of the Plants become exceeding dry, and it be not froſty Weather, refreſh them ſparingly with qualified Water. * If the Seaſon proves extreamly piercing, (which you may certainly know by the freezing of a moiſtened Cloath, or Diſh of Water) light your Fires: When it does not freeze or rain, and the Sun ſhines clear, ſhew the Greens the Light thro' the Glaſs-windows, but encloſe them again at Night, unleſs the Weather be very mild: If any of the Trees grow tainted, make a Fire in your Stove and open the Windows from ten in the Morning 'till three in the Afternoon, then cloſing the outſide Shutters: You are not to water your *Aloes*, or *Sedums*, during the whole Winter, and watering of any houſed Plants, particularly *Oranges*, is very pernicious, unleſs there be an abſolute Neceſſity: If the *Aloes* grow manifeſty too dry, expoſe them to the Air when clear, for a ſmall Space, and they will recover. Prepare Matraſſes, Boxes, Caſes, Pots, *&c.* for tender Plants, and Seedlings newly ſown.

In the Kitchen-Garden, continue your ſetting and tranſplanting of Trees, and to lay bare old Roots; and in all Tranſplantings have a Regard to the former Aſpect, and ſet your Tree not any deeper

* *Vide watering of Oranges, &c. in the Month of April.*

deeper than it ſtood before: And 'tis obſerv'd as a general Rule, that you cannot plant too early in Autumn; Wind S. W. plant moiſt, ſow moderately dry, and cover not your Seeds too thick; furniſh your Nurſery with Stocks to graff on the next Year: Prepare Stocks for all Sorts of Fruit; apply freſh Mould to the Roots of ſickly Trees; cover your moſt delicate Stone Fruit and Murals for their Defence againſt the Eaſterly and Northerly Winds; gather your remaining Orchard-Fruit. Carry Compoſt out of your *Melon* Ground, and mingle it with Earth in Ridges for the Spring; trench and fit Ground for *Artichokes*, *&c.* which are to be cover'd as *Aſparagus*, and Leaves fallen in the Woods, will ſupply for Dung: Cut off the Tops and Stalks of *Aſparagus*, weed the Beds and cover them with long Dung; ſow *Aſparagus* Seeds, and prepare Beds, to plant in Spring. And *M. de la Quintiney* in his *Comp. Gard.* adviſes the forcing *Aſparagus*, by digging the Trenches between the Beds, and filling them up for two or three Foot deep, with hot ſtrong Dung. Take up *Potato's*, *Carrots*, *Parſnips*, *Cabbages*, *Colliflowers*, *&c.* and put them in your Cellars, (the Roots in Sand) for ſpending, and for Seed. Sow and ſet early *Beans* and *Peaſe*: The hot Beds will ſupply for Sallads, young *Lettice*, *Creſſes*, *Chervil*. *&c.* whereon you may ſow *Raddiſhes* for *Chriſtmas*: Plant *Gooſeberries*, *Corinths*, and other Shrub-Fruit.

The Products of this Month of Flowers, are, *Stock-Gilliflowers*, *double Violets*, *Meadow Saffron*, *Muſk Roſe*, *&c.* *Jeſſamines*, *Myrtles*, *&c.* In the Kitchen-Garden, Salladings, *&c.* and ſome *Artichokes*, plenty of *Apples* in your Orchards, Winter *Pears*, and ſome *Medlars*.

DECEMBER

Mr. *Woolridge* ſays, you may yet plant *Anemonie* and *Ranunculus* Roots; preſerve from immoderate Rains and ſevere Froſts, the choiceſt of thoſe Flowers, and alſo *Carnations*, *&c.* ſet *Bay-Berries*, *&c.* Keep the Doors and Windows of your Conſervatory well matted, and guarded from the piercing Air: Cover your Fountain-Pipes and Stone of your Water-works, with Stable Litter.

In the Kitchen-Garden, plant *Vines*, *&c.* and Stocks for Graffing, *&c.* and either late in this Month, or in *January*, prune and cut off all the *Vine-ſhoots* to the very Root, ſave one or two of the largeſt. Feed your weak Stocks: You may at the latter End of this Month, prune and nail Wall-Fruit and Standards that are hardy, tho' 'tis better deferr'd a Month or two longer; you may as yet ſet all Sorts of Kernels, Stones, *&c.* Sow little Sallads on hot Beds; ſow for early *Beans* and *Peaſe*, but take Care of the Froſts: Continue to trench Ground, and dung it, to be ready for Borders, or the planting of Fruit-Trees, *&c.* Cover *Sellery* and other Winter-ſallading, with long Dung.

ThePRoduce of this Month of Flowers, is only the *Black Hellebore*, *Winter Cyclamen*, *Primroſe*, *Snow-Drops*, and perhaps ſome *Stock-Gilliflowers*. In the Kitchen-Garden, *Winter Spinage* and *Cabbages*, and *Apples* and *Pears*.

The CONCLUSION.

I Have now gone thro' the particular Branches of Gardening I propos'd, and I hope to the Satisfaction of all contemplative and ingenious Gentlemen, whose Favour only, with that of their fair Spouses I desire, and I hope I may without Presumption expect, and to use the Words of Mr. *Laurence*, in the Conclusion of the first Part of this Work; 'Thus much at least I have endeavour'd to speak 'intelligibly, to lay down my Observations in a 'tolerable Method, and to avoid unnecessary Pro-'lixity. I shall conclude this Treatise with two Epistles I received from Mr. *Laurence*, on communicating my Design to him, whose Concurrence I think no small Recommendation, notwithstanding a late Author hath endeavour'd to expose him. You'll see that Gentleman wrote to me in great Hast: However, I presume to insert his Letters, since the last of them contains something perfectly New, relating to variegated Greens and Plants, *&c.* and not doubting his Candour and Generosity to forgive this Freedom.

LETTER I.

A Letter from the Reverend Mr. *Laurence*, Containing his APPROBATION of this WORK.

Sir, Yelvertoft, Feb. 19. 1716-17.

YOURS of the 12th Inſtant, which I receiv'd, happening to lye a Poſt or two at Northampton, *hinder'd me from anſwering it ſooner; But I ſuppoſe it will now be two late to tell you, that I am highly pleas'd with your Deſign, as what I have long wiſh'd might be undertaken by ſome able Hand; not by Way of* Dictionary, *as ſome lazy Writers of late have done; but in a* Conciſe Method, *and an eaſy pleaſant Style, ſuch as may entertain the Reader with Delight and Satisfaction, as well as Information. That was what I own, I aim'd at, at leaſt in both my Treatiſes; and the World was pleas'd to take them kindly. The Specimen you have given me of your Manner of Writing, makes me hope you will anſwer the World's Expectations in the other Part of Gardening, equally entertaining, and much wanted, relating to* Flowers, Green-houſes, &c. *which, as you ſay rightly, I did not touch upon. Indeed I on Purpoſe choſe to wave it, that it might be undertaken by ſome other of longer Experience in thoſe Matters, than my ſelf, and furniſh'd with more uncommon Obſervations than I pre-*

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tend to be Master of. To this Purpose, before I publish'd my last Book, I would have perswaded Mr. Uvedal *of* Enfield, *or Mr.* Lloyd, *Rector of* Covent-Garden, *to undertake that very Thing you now attempt, and to have join'd with me: But neither of those worthy Gentlemen would be perswaded to set Pen to Paper. I dare say, however, the World will not think it now too late to be bless'd and oblig'd with the Effects of that experimental Knowledge you say you have gain'd in those Matters; and I believe I may venture to say, you may depend upon a very fair and impartial Hearing; these Sorts of Subjects being eagerly sought after by all polite and ingenious* Gentlemen, *not to say those of the* Fair Sex *too. I am much oblig'd to you for your kind and friendly Letter, and should be glad of the Opportunity of a nearer Acquaintance with you. In the mean Time, I heartily wish you Success in your Undertakings, and shall be glad of all Opportunities to shew that I am, (tho' unknown)*

Your affectionate Friend,

And humble Servant,

J. LAURENCE.

P. S. *I can meet with few that understand, or like Mr.* Switzer's *Way of Writing: He has promis'd to treat upon your Subjects; but except he exceeds the Specimen he hath given us, his Books will hardly be lik'd; at least they will rather please the Poets, than the natural Philosophers.*

To Mr. Charles Evelyn.

LETTER

LETTER II.

A Letter from Mr. *Laurence*, with some Directions for the beautifying and improving a Garden of Pleasure, particularly relating to variegated Greens.

Sir, Yelvertoft, March 6, 1716-17.

I Am much oblig'd to you for the good Opinion you are pleas'd to entertain of my poor Judgment: But indeed, tho' I have made some Observations on Nature in that which I call the profitable Part of Gardening, yet I would not make my self wiser than I am, but freely own that I know nothing remarkable, or worth communicating to a Man of your Ingenuity and Experience, relating either to Flowers *or* Green-Houses; *those* Curiosities *having been pretty much neglected by me, chiefly for want of Time, and a good Soil: To say nothing of the* Charge *of the latter; if there is any Thing more than other in a* Garden *of Pleasure, that strikes my Fancy, it is that great* Variety *of* Stripes *which Nature affords us in almost all Sorts of* Vegetables; *and I have sometimes thought, if a complete* Collection *of these were made, and they were judiciously sorted, according to the different Times when they appear in their greatest Beauty, a very surprizing and agreeable Show might be made, especially, if a Place were allotted for these Sorts of*

Beauties,

Beauties, and for these alone. For Instance, If in a little square Place the Walls were cover'd with variegated Philyrea's, Rosemaries, Ivies, &c. *some Borders with handsome Standards of painted* Hollies, *one of every Sort; others fill'd with painted* Laurels, Jessamines, Hony-suckles, &c. *and then, if all the painted* Reptiles *and* Shrubs *were plac'd by themselves,* Periwinkles, Thymes, Violets, &c. *and also all the several Sorts of* Annuals, *with strip'd Leaves,* Lillies, Crown-Imperials, &c. *I should think a complete* Collection *of these judiciously sorted, as it would be an uncommon Fancy, so it would please the Curious, who are very naturally led to admire the Beauties and Varieties of Nature. I thought good only to hint thus much, leaving it with you to improve or enlarge, as you see Occasion, or to lay aside if you dislike. I doubt I have not express'd my Thoughts very consistently, being in great hast; but I trust you will pardon that, as coming from one that is*

Your most affectionate

Humble Servant,

To Mr. Charles Evelyn.

J. Laurence.

FINIS.

NEW

IMPROVEMENTS

OF

Planting *and* Gardening,

BOTH

Philoſophical *and* Practical.

EXPLAINING.

The MOTION of the SAP, and *Generation* of *PLANTS*:

With other Diſcoveries never before made Publick, for the Improvement of *Foreſt-Trees*. *Flower-Gardens*, or *Parterres*; with a new Invention whereby more Deſigns of *Garden-Plats* may be made in an Hour, than can be found in all the Books now extant. Likewiſe ſevral rare Secrets for the Improvement of *Fruit-Trees*, *Kitchen-Gardens* and *Green-houſe Plants*.

Agite, O Adoleſcentes, & antequam Canicies vobis obrepat. Stirpes *jam alueritis, quæ vobis, cum inſigni* utilitate, delectationem *etiam adferent.*

Pet. Bellonius, de neglectâ Stirpium culturâ,

By *RICHARD BRADLEY*, Fellow of The ROYAL-SOCIETY.

Dublin: *Printed for* George Grierſon *at the two Bibles in* Eſſex-Street, MDCCXVII.


Library of Ireland



To the Moſt High, Puiſſant, and Moſt Noble PRINCE

H E N R Y,

Duke, Marquis, and Earl of *Kent*, Earl of *Harrold*, Viſcount *Goodrich* Baron *Lucas* of *Cradwell*, *&c.* Lord-Steward of His Majeſty's Houſhold, Conſtable of *Windſor* Caſtle, and Lord Warden of *Windſor* Foreſt, Lord-Lieutenant and *Cuſtos Rotulorum* of the County of *Bedford*, one of the Lords of His Majeſty's Moſt Honourable Privy Council, and Knight of the Moſt Noble Order of the Garter.

My LORD,

YOUR Grace's Generous Encouragement of whatever may advance the Good of your Country, gave me the firſt Thought of inſcribing theſe Papers to your great Name, and it is with Pleaſure that I mention your Grace's Permiſſion to make Uſe of that Patronage, which my Ambition firſt led me to. I am too well acquainted with your great attainments in all Kinds of Learning, to offer any conjectural Projects, or vain Hypotheſes, to ſo penetrating a Judgment; theſe Sheets are the Reſult of many Years Experience,

The Dedication.

rience, the only Foundation which ſuch accurate Philoſophers as your Grace will allow for the Improvement of Natural Knowledge. It is a great Happineſs, when Men of your exalted Quality, and large Fortunes, honour the Sciences, not only with your Protection, but by being Maſters of them, become their Ornaments. Thus, my Lord you are to our Studies in a Way of Art, what the Sun *is to the Subject of them in a natural Way, which, tho' plac'd at an infinite Diſtance from the* Plants *of the* Earth, *yet by its Influence gives them Warmth, Action, Life and Beauty.*

May it pleaſe your Grace,

Inſtead of enumerating the ſeveral Virtues of your illuſtrious Houſe, and your own, which the Publick know already; I beg Leave to Congratulate my Country upon the noble Spirit your Grace, has always ſhewn in doing it the moſt important Services: The Men of Buſineſs, and the Men of Letters, *the State and the Societies of Learning, are equally your Debtors. For my own Part, tho' the meaneſt among the latter, I ſhall endeavour, from your Influence, to proſecute the Subject I have here begun, with new Vigour. humbly hoping to approve my ſelf, what I moſt deſire to be thought,*

Your Grace's Moſt Obliged and

Moſt obedient humble Servant,

Richard Bradley.

THE

PREFACE.

AS *there is no Subject of more General Use and Advantage than the Cultivation of of Land, and the Improvement of the vegetable World, ſo there is none which has been treated of more largely, and fell under ſuch a variety of Pens of all Kinds. The Publick, which is generally ſo good natur'd on this Occaſion, as to accept and encourage any Thing that looks towards the bettering their Fortunes, has never been ſo much baulk'd in their Expectations as in Books of Agriculture. The Reaſons of which are, that ſome of theſe Writers have beſtow'd their Pains in collecting from Antiquity and foreign Soils, and thought they had perform'd great Matters, by heaping together a Load of Obſervations from* Varo *and* Pliny, *without carefully conſidering wherein their Experiments differ from the Genius of our* Soils *and* Climates: *Others employ'd their Time in copying from our old* Engliſh *Syſtems, and theſe have generally tranſcrib'd one another, without the leaſt Acknowledgement of their Thefts, or adding one ſingle Improvement to the Knowledge of their Fore-fathers. And indeed, how ſhould it happen otherwiſe, when the Undertakers of this Subject have generally been either Covetous or illite-*

rate Gardeners *and* Planters; *ſome that if th knew any thing new or curious, had not the Spirit communicate their Notions; and ſome that jogg on in the old beaten Track, without any Ambition excel their Predeceſſors. We have now and then, is true, a* Gentleman *ſtudious and capable of bliging the World, free from the narrow Views of Sel Intereſt, and employing his Hours for a more diffuſiv Benefit than the Culture of his own private Eſtate Garden; an* Evlyn, *a* Nourſe *and a* Laurence *hav given us ſomething equally New and Juſt, built upo Experiment, upon the beneficial Subject of* Plantation *But what are theſe when compar'd to that uſeleſ Number of unimproving Authors.*

Apparent rari nantes in gurgite vaſto.

For my own Part, I muſt confeſs, That I have bee long Time waiting for a Complete Syſtem *of* Agr culture, *and have read many a fair promiſing Titl but have found nothing within but a barren Bulk Old Repetitions. This has excited me, who from natural Bent of Genius, even from my Childhood, hav had a Paſſion for* Gardening *and* Planting, *to redu all my Notions and Obſervations into a regular Form and endeavour to ſupply this General, and ſo muc lamented Defect of other Writers, I ſhall think with out Vanity, that I may do my Country no inconſiderab Service, if I can excite the Nobility and Gentry the Kingdom to early* Plantations *upon their Eſtate which I ſhall prove, will not only redound to their ow private Profit, but the Advantage of the Nation general. The Diſuſe of this Method was complain of by Mr.* Evelyn, *who ſays very juſtly,* There no Part in Husbandry which Men common

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more fail in, neglect, and have Cause to repent f, than that they did not begin Planting be- mes. *And indeed such Persons who have been deaf Demonstration at the first Possession of their E- ates, and are afterwards convinc'd of the vast Ad- antages to be reaped by an early* Plantation, *either om the Experience of their Neighbours or them- lves, must have a very pungent Retrospect upon this ccasion. Every Man is naturally willing to enjoy the* rofits *of the* Works (as one may call them) *of s own Hands, and he therefore who begins at Fifty be sensible that he has lost many a fair Thousand by s Neglect of improving his Estate between Twenty d his present Age, is to himself indeed a Looser, t a Warning to others to avoid that Folly.*

To begin then as Methodically as I can, and take all that relates to this Subject, I shall fairly l my Reader what he is to expect in this First Part, *d I hope he will pardon me if I mix a little Natural ilosophy, such as is plain, easy, and grounded upon own Experience, with these Observations on* rdening *and* Planting.

I shall then advance (what I think) a new System Vegetation, and endeavour to prove that the Sap Plants *and* Tree *Circulate much after the same man- as the Fluids do in Animal Bodies, which may one Argument to shew the beautiful Simplicity of ature in all her Works.*

The Generation of Plants *will next be consider'd, l the Manner how their Seeds are impregnated, a scovery which I made some Years since; this will of great Use to all* Planters, *by directing them in proper Choice of their Seeds.*

The Difference of Soils will make another consider- Article, what are Natural to each Tree, and how

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all Kinds of Soils may be mended, alter'd or improv'd by proper Mixtures with each other; a part of Husbandry that has as yet been but slightly touch'd upon, and yet the whole depends chiefly upon it.

The Method of dressing of Woods, *and making* Plantations *of* Timber Trees, *naturally follows; wherein I shall propose a new, easy and Practical Way of raising* Woods, *with very little Expence, which I hope will take off those Fears which the Generality are taught to conceive of the present great Charge of* New Plantations.

And for the further Encouragement of all Gentlemen, *who propose an Advantage from their Woods, I shall add an Estimate of the Profits that will arrive from an Acre of Land planted with* Timber *and* Underwood *in* 9 *Years,* 17 *Years, and* 25 *Years after* Planting, *which I shall prove will amount to above* 250 *l. beside the Timber growing.*

Having now laid my Scheme before the Publick, I have nothing more to do, than invite all Gentlemen, who are Curious in this Way, to communicate their Observations upon any of these Heads, and whether they agree with, or contradict my own, I shall think my self oblig'd to do them Justice in my following Papers, *I can only say, That this is a Subject which I have long study'd and experienc'd; and a slight or single Observation ought to be no Foundation to build a new* System *upon, or overthrow an old one. An Undertaking of this Kind, which aims directly at the Good of others, I hope therefore will meet with little Censure, and less Discouragemnt.*

THE

NEW

IMPROVEMENTS

OF

Planting and *Gardening*,

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Philoſophical *and* Practical.

CHAP. I.

A Parallel between Plants and Animals; with an Attempt to prove the Circulation of the Sap in Vegetables.

VEgetation, in whatever Degree I ſhall treat of it, is equally depending on the Order of Nature. Whether I ſpeak of *Trees*, *Shrubs*, or *Herbaceous Plants*, their Principles are equally the ſame: that is to ſay, they all alike draw their Nouriſhment by way of their *Roots*; which Nouriſhment is convey'd through proper Veſſels into the *Stem*, the *Branches*, *Leaves*, *Flowers* and *Fruit*.

Now that I may more eaſily explain by what Means every *Plant* receives and diſtributes it Nou-

rifhment to the feveral Parts of it; give me leave to draw a Parallel between *Plants* and *Animals*, that thereby the Nature of *Plants* may be the better underftood.

The many curious Obfervations which have been made concerning the Structure of *Animal* Bodies, and what *Malpigius*, Dr. *Grew*, and my felf have remark'd in the Structure of *Vegetables*, may afcertain to us, that Life, whether it be *Vegetable* or *Animal*, muft be maintain'd by a due Circulation and Deftribution of Juices in the Bodies they are to fupport; we have all alike difcover'd (with the help of *Microfcopes*) the feveral Veffels, and other Parts which compofe a *Plant*; but I cannot agree in Opinion with the Authors I have mention'd concerning the Courfe of the Juices thro' the Ducts and Channels which we have difcover'd. It would be needlefs for me in this Place to relate their feveral Opinions, which would fwell this Treatife to too great a Bulk; their Works may be perufed by the Curious; I fhall proceed to explain, that the *Sap* Circulates in the Veffels of *Plants*, as the *Blood* doth in the Bodies of *Animals*.

And that this new Syftem may be the better underftood, I think it proper in this Place to give a fhort Defcription of the Veffels in *Plants*, and their Situation. Firft then the *Root* of a *Plant* is of a fpungy Nature, ready to admit into it fuch humid Particles as are fitted (in the Earth, by a certain Temperature of Air) to be received into its Pores: and we may obferve that the various Qualities of different *Plants* depend chiefly on the different Size of the Pores in their *Roots*, by which they receive their feveral Nourifhments.

Secondly, We muft underftand that the Wood of every *Plant* is compofed of Capillary Tubes running

ning parallel with each other, from the *Root* (upright) through the *Trunk*. Their Cavities are so small that they are hardly to be discern'd by the natural Eye, unless in a Piece of Charcoal, Cane, or Oaken Board: These Vessels renew and augment themselves every Year, as we may observe by cutting a *Tree* Horizontally, which will discover to us the Latitudinal Shootings, and the annual Additions of these Pipes, and for which Reason the *Trunks* of *Trees* increase in their Circumference. These Tubes for Distinction sake I shall call *Arterial Vessels*. For it is through these the *Sap* rises from the *Root* in fine *Vapour*; for their Cavities are so small that it would be impossible they should admit any thing whose Parts were so large as those of a *Liquor*.

Thirdly, The Passages, or Pipes, by which the *Sap* returns downward, are much more open than the former, and are capable of receiving a Liquor into them; these are placed immediately on the Outside of the *Arterial Vessels* between the *Wood* and inner *Bark*, and lead down directly to the Covering of the *Root*. They perform the Office of *Veins*; and contain the liquid *Sap* which is found in *Plants* in the Spring and Summer Months.

Fourthly, The *Bark* of a *Tree* is of a spungy Texture, and by many little Strings which pass between the *Arterial* Pipes, corresponds with the *Pith*. And,

Fithly, The *Pith* is composed of little transparent Globes chain'd together in like Manner with those Bubbles which compose the Froth of any Liquor.

In fine, a *Plant* is like an *Alimbeck*, which distils the Juices of the Earth; as for Example.

The *Root* having suck'd in the Salts of, and therewith fill'd it self with proper Juices for the Nourishment of the *Tree*; these Juices then are set in Motion

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tion by Heat, that is, they are made to evaporate into *Steam*, as the the Matter in a Still will do when it begins to warm; now ſo ſoon as this *Steam* or *Vapour* riſes from the *Root*, its own natural Quality carries it upwards to meet the Air; it enters then the Mouthsof the ſeveral *Arterial Veſſels* of the *Tree*, and paſſeth up them to the Top with a Force anſwerable to the Heat that put it in Motion, by this Means it opens (by little and little as it can force its way) the Minute Veſſels which are roll'd up in the *Buds*, and explain them by degrees into *Leaves*.

But as every *Vapour* of this kind when it feels the Cold will condenſe and thicken into a Water, ſo when the *Vapour* which I mention to riſe thro' the *ArterialVeſſels* arrives at the extream Parts of them, (*i. e.*) the *Buds* of a *Tree*, it there meets with Cold enough to condenſe it into a *Liquor*, as the *Vapour* in a Still is known to do.

In this Form it returns by Means of its own Weight to the *Root* down the *Veſſels* which do the Office of *Veins*, lying between the *Wood* and inner *Bark*; leaving, as it paſſeth by, ſuch Parts of its Juice as the Texture of the *Bark* will receive, and requires for its Support.

It may be wonder'd at that I have not taken more Notice of the *Pith* which has been always accounted the principal Part of a *Tree*; to which I ſhall only anſwer at this Time, that many *Herbaceous Plants* have not any *Pith*, and that I have ſeen the *Trunks* of large *Trees* deſtitute of it, and they have yet continued to grow and to bear *Fruit*, ſo that the Order of *Vegetation* may be explain'd without it; and indeed was I here to take Notice of the ſeveral Particulars in *Plants*, I might ſwell this Treatiſe into a large Volume; but I am clearly of

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the ſame Opinion with him that ſaid, μέγα βίβλιον μέγα κάκον; and therefore ſhall confine my ſelf in this Work to ſuch Relations only, as I hope may be Uſeful.

But to proceed: The following Experiment of the moſt Ingenious Mr. *Lawrence*, which he has mention'd in his *Clergyman's Recreation*, relating to the Jeſſamine, may convince us of the Certainty of the *Sap's* Circulation in *Plants*. I ſhall give it in his own Words, "Suppoſe a plain *Jeſſamine* "*Tree* ſpreading it ſelf into two or three *Branches* "from one common *Stem* near the *Root*. Into any "one of theſe *Branches*, in *Auguſt*, inoculate a "*Bud* taken from a yellow ſtrip'd *Jeſſamine*, where "it is to abide all Winter, and in the Summer, "when the *Tree* begins to make its Shoots, you "will find here and there ſome *Leaves* ting'd with "Yellow, even on the other *Branches* not inocu-"lated, 'till by Degrees, in ſucceeding Years, the "whole *Tree*, even the very *Wood* of all the ten-"der Branches, will be moſt beautifully ſtrip'd "and dy'd with Yellow and Green intermix'd; *he* "*adds*, that tho' the inoculated *Bud* ſhould not "ſhoot out, or that it ſhould live but two or three "Months, and after that happen to die or be "wounded by Accident, yet even in that little "Time it will have cummunicated its Virtue to "the whole *Sap*, and the *Tree* will become entirely "ſtrip'd." And this Experiment my ſelf and ſeveral others have made ſeveral Years ago; it gave me the firſt Hint of the *Sap's* Motion, and put me upon further Enquiry, it may I hope ſatisfy the Curious.

The Motion of the *Sap* continues in a *Plant* ſo long as the Sun's Warmth can keep it in a fluid State, but is condenſed or thicken'd by a Winter's Cold,

Cold, and is thereby changed into the Consistency of Gum, and being thus stagnated, cannot move any more till the Warmth of the following Spring, or some artificial Heat, rarifies it into its former liquid State.

It then renews its former Vigour, and pushes forth *Branches*, *Leaves*, *&c.* But we must not suppose it is only the melted *Sap* that does that Office of *Germination*, the *Root* has not been idle while the *Branches* have stood still, it has not lost the Moisture of the preceding Autumn to impregnate and furnish it self with proper Salts or Nouriture; from whence the *Tree* is to be maintain'd. Here is a Supply laid in to furnish Food for the Summer; as some industrious *Animals* will do to nourish themselves in the Winter.

In the next Place it may not be amiss to confute a common Opinion, *That the* Sap *returns to the* Root *in Winter*; for if it did so, how comes it that *Trees* which are cut down in *November* and *December* will put forth *Branches* and *Leaves* the following Spring, altho' they have no *Root* or Earth to feed them; this plainly shews that the *Sap* is condensed or thicken'd in the *Tree* during its Circulative Course by extream Cold, and remains in that gummy State, 'till the Warmth of the Spring (as I have already said) liquifies it, and by the *Vapour* which must then arise from it, the *Buds* are push'd forth, so long as there is Matter sufficient to furnish them.

And now since it appears from what has been said, that *Plants* have a Circulation of *Sap*, and proper Means whereby to supply themselves with *Food*, let us consider whether *Plants* in their several Kinds do not require different Sorts of *Food* one from the other, like various sorts of *Animals* which differ in their *Dyets*. *First*

First then, *Land Animals* may be liken'd in general to thoſe *Plants* which are call'd *Terrene*, for that they live only upon the Earth, ſuch as *Oaks*, *Beech*, *Elm*, &c.

Amphibious Animals, ſuch as the *Otter*, *Beaver*, *Tortoiſe*, *Froggs* &c. which live as well on the Land as in the Waters, may be compared to the *Willow*, *Alder*, *Mints*, and ſuch others.

The *Fiſh Kind*, or *Aquatick Race*, whether of the *Rivers* or the *Sea*, are analogous to the *Water Plants* ſuch as *Water Lillies*, *Water Plantains*, &c. which only live in *Rivers* or *Freſh Water*, or the *Fuci*, *Coral*, *Coraline*, &c. which are Sea or Salt Water *Plants*; and not any one of thoſe will live out of its proper Element. From whence we may conclude, how improper it would be to plant a *Water Lilly* in a dry ſandy Deſart, or an *Oak* at the bottom of the Sea, which would be juſt as unreaſonable as if we ſhould propoſe to feed a *Dog* with *Hay*, or a *Horſe* with *Fiſh*; however, this Rule of Nature has been ſo little obſerv'd even by ſome of our greateſt *Planters*, that we can hardly boaſt of good Succeſs in one out of five *Plantations* that has been made.

But I ſhall beg Leave to remark yet further, That as the ſeveral *Land Animals* have their reſpective *Dyets*, ſo have the *Terrene Plants* likewiſe their ſeveral *Soils* from whence they draw their Nouriſhment; as ſome *Animals* feed on *Fleſh*, others on *Fiſh*, *Roots*, *Leaves*, *Grain* or *Fruits*, ſo do we find that ſome *Plants* love *Clay*, others a *Loam*, *Sand*, or *Gravel*, &c. Nor is this all we ought to obſerve, we muſt conſider likewiſe how beneficial to every *Plant* is a right Expoſure, whether in a *Vale*, the ſides or tops of *Hills*, expoſed to the *South* or *North* Winds, whether inland, or near

the Air of the *Sea*; for it is a proper *Air* that keeps a *Plant* in Health, and fits it to receive its Nourishment, and a certain degree of *Warmth*, peculiar toeach kind of *Plant*,it is likewise worth our Enquiry, for it is a *Warmth*, natural to each *Plant* that puts its *Juices* in their proper Motion; but this may be more fully explain'd in another Place; in the mean while I shall proceed to examine, in the next Chapter, by what Means *Plants* are capable of *Generating*, and to explain the Uses of that Discovery,

CHAP. II.

Of the Generation of PLANTS.

IN the foregoing Chapter I have given my Reader such Hints as may serve to explain my *System of the Circulation of Juices in Vegetables*, and have endeavour'd to show that *Plants* are somewhat analogous to *Animals*; I shall now proceed to offer another discovery, as new as the former, and depending on it, which I conceive will be of extraordinary Use tosuch as raise Plantations from *Nutts*, *Mast*, or any other kind of *Seed* or *Grain*. And altho' in this Treatise I have proposed to give some Directions tending only to the Improvement of *Forrest* and *Timber Trees*, yet I hope to be excus'd, if in the Explanation of this wonderful Mystery of the *Generations of Plants*, I shall be forced to introduce such kinds of *Plants*, as are not to be found in *Forrests*, and to make some of my Experiments in the *Orchard* or *Kitchen-Garden*.

Moses

Moſes tells us in his Account of the *Creation*, That *Plants have their Seeds in themſelves*; that is every *Plant* contains in it ſelf Male and Female Powers; the Text he has given us ſeems to be explain'd by this Diſcovery, and may lead us to conſider that *Plants* wanting *local Motion*, require therefore this Union of *Sexes* in themſelves, by which Means they may generate without the Neighbourhood of other *Plants*; they are in this reſpect like *Muſcles*, of other immovable Shell-fiſh, who are *Hermaphrodites* of this kind, having their Propagation without the help of one of the ſame Species. I mention *Muſcles* and other immovable Kinds of *Shell-fiſh* as a particular kind of *Hermaphrodites*, for thoſe which have local Motion, ſuch as *Snails* and *Earth-Worms*, when they couple with one another, at once perform the *Male* and *Female* Act of *Generation*.

But before I proceed to explain this New Syſtem, I think my ſelf obliged to declare that the firſt Hint of this Secret was communicated to me ſeveral Years ago by a worthy Member of the *Royal Society*, *Robert Ballee*, Eſq; who has had this Notion for above Thirty Years, that *Plants* had a Mode of *Generating* ſomewhat analogous to that of *Animals*. The Light which I received from this Gentleman was afterward farther explain'd by another Learned Member of that Society, Mr. *Samuel Moreland*, who in *Phil. Tranſ.* Numb. 287, *Anno* 1703, has given us to underſtand how the *Duſt* of the *Apices* in *Flowers* (*i. e.* the *Male Sperm*) is conveyed into the *Uterus* or *Vaſculum Seminale* of a *Plant*, by which Means the *Seeds* therein contain'd are *impregnated*. I then made it my Buſineſs to ſearch after this Truth, and have had good Fortune enough to bring it to Demonſtration by ſeveral Experiments; ſince which, a Gentlemen of *Paris*

has printed ſomething of the ſame Nature, in the *Hiſt. de l' Accad. de Sciences*, for the Years 1711 and 1712, which were publiſh'd about two Years ago.

But to come to the Point, the *Lilly* being a Flower more generally known than any other, and its Generative Parts being large and expoſed, I ſhall from thence endeavour to explain the Method which Nature makes uſe of to impregnate the *Seeds* of *that* and *every* other *Plant*, and by which Means the ſeveral *Species* of *Vegetables* have been continued to the World.

The *Flower* of the *Lilly* has ſix *Leaves* or *Petals*, which are ſet on upon the Summit of the *Footſtalk*, mark'd *A* in the firſt Figure; they ſerve to guard the Parts of Generation from the Injuries of the Weather, and as they are of no other Uſe that I know of, ſo it is not neceſſary that I ſhould place them in the Figure.

B is the Mouth of the *Piſtillum* or Paſſage which leads into the *Uterus C*, in which are three *Ovarys* fill'd with little *Eggs* or *Rudiments* of *Seeds*, ſuch as we find in the *Ovaria* of *Animals*, but theſe *Eggs* will decay and come to nothing, unleſs they are impregnated by the *Farina Fecundans* or *Male Seed* of the ſame *Plant*, or one of the ſame ſort.

From *D* to *E* is a *Stamen* of the *Lilly*, thro' which the *Male Seed* of the *Plant* is convey'd to be perfected in the *Apex E*, where, by the Sun's Heat it ripens and burſts forth in very minute Particles like *Duſt*; ſome Particles of which *Powder* falling upon the Orifice *B*, is either convey'd from thence into the *Utricle C*, or by its magnetick Virtue draws the Nouriſhment with great Force from the other Parts of the *Plant* into the *Embrio's* of the *Fruit*, and make them *ſwell*.

Now

Now that the *Farina Fecundans* or *Male Duſt* has a Magnetick Virtue, is evident, for it is that only which *Bees* gather and lodge in the Cavities of their hind Legs to make their *Wax* with; and it is well known, that *Wax*, when it is warm, will attract to it any light Body. But again, if the Particles of this *Powder* ſhould be requir'd by Nature to paſs into the *Ovarys* of the *Plant*, and even into the ſeveral *Eggs* or *Seeds* there contained, we may eaſily perceive, if we ſplit the *Piſtillum* of a *Flower*, that Nature has provided a ſufficient Paſſage for it into the *Uterus*.

In the firſt Figure I have only given a Deſign of one *Stamen* with its *Apex*, to prevent Miſtakes in my Explanation, but the *Flower* of every *Lilly* has ſix of the ſame Figure and Uſe, which are placed round about the *Piſtillum* or Female Parts; ſo that 'tis almoſt impoſſible it ſhould eſcape from receiving ſome of the *Male Duſt* (or *Farina Fecundans*) falling upon it.

In this and other *Flowers* of the like Nature the *Piſtillum* is always ſo placed that the *Apices* which ſurround it are either equal in Height with it, or above it, ſo that their *Duſt* falls naturally upon it. And when we obſerve it to be longer than the *Apices*, we may then conjecture that the *Fruit* has began to form it ſelf, and has no longer occaſion of the *Male Duſt*. And it is likewiſe obſervable that ſo ſoon as this Work of *Generation* is perform'd, the *Male Parts*, together with the *Leaves* or *Covering* fall off, and the *Pipe* leading to the *Uterus* begins to ſhrink.

We may further remark, That the top of the *Piſtillum* in every *Flower* is either cover'd with a ſort of Velvet Tunic, or emitts a gummy Liquor the better to catch the *Duſt* of the *Apices*.

And now as we may find in the Deſcription I have given of the *Lilly*, that the *Uterus* is within

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the *Flower*; ſo on the other Hand the *Uterus* of a *Roſe* is without the *Flower* at the bottom of the *Petals* or *Flower-Leaves*. And likewiſe in *Fruit Trees*, the *Cherry's*, *Plums*, and ſome others, have their *Utricles* within their *Flowers*, and the *Gooſeberry*, *Currant*, *Apples* and *Pears*, on the outſide or bottom of their *Flowers*. But farther, altho' Nature has deſign'd the *Duſt* of the *Apices* to fecundate the *Female Parts* contain'd in the *Flowers* of *Plants*; yet we obſerve that in ſome *Plants* the *Male* and *Female Parts* are remote from each other; as for Example, the *Gourd*, *Pumpkin*, *Melon*, *Cucumber*, and all of that Race, have *Bloſſoms* diſtinctly, *Male* and *Female*, upon the ſame *Plant*. The *Male Bloſſoms* may be diſtinguiſhed from the others, in that they have not any *Piſtil* or Rudiment of *Fruit* about them, but have only a large *Thrum* cover'd with *Duſt* in their middle; the *Female Bloſſom* of theſe has a *Piſtillum* within the *Petals*, or *Flower Leaves*, and the Rudiment of their *Fruit* always apparent at the bottom of the *Flower* before it opens; and ſo in like manner all *Nut-bearing*, and, I think, *Maſt-bearing Trees* have their *Catkins* or *Male Bloſſoms* remote from the *Female Parts*.

The *Oak* for Example, which bloſſoms in *May*, has its *Male Parts* diſtinct from the *Acorns*, we find Strings of little *farinaceous Flowers* in great Abundance, as in the Second Figure, mark'd *G*, remote from the Rudiments of the *Acorns* or *Fruit* mark'd *H*: And ſo likewiſe in the *Walnut*, *Cheſtnut*, *Hazel*, *Pine*, *Cypreſs*, and even the *Mulberry*, *Aſpen*, and others. I have obſerv'd that ſome Sorts of *Willows* change their Sex every Year, by producing only *Male Bloſſoms* or *Katkins* one Year, and the other following *Strings* of *Female Bloſſoms*, which if they then happen to be near enough ſome

Flow'ring

Flow'ring Male, will produce *Seeds* not much unlike thoſe of an *Apocinum*.

When we view with a good *Microſcope* the *Male Duſt* of one ſingle *Plant*, we find every Particle of it to be of the ſame Size and Figure, but in ſome Caſes, it is of two Colours, as in the *Tulip*, where it is Yellow and Blue; but as *Plants* differ from one another in their Figures and Qualities, ſo are the Figures of their ſeveral *Duſts* greatly different from each other; a Grain of the *Duſt* of *Geranium Sanguineum, Maximo flore* of *C, B, P*, is like a Bead of a Neck-lace with a Hole thro' it.

The *Farina* of the *Corona Solis perennis Flore & Semine Maximus, Hort, Ludg, Bat*, is a Globe ſet with Thorns; that of the *Ricinus Vulgaris, C, B, P*, is of the Figure of a Grain of Wheat.

And the *Acer Montanum Candidum* of *C, B, P*, affords a *Duſt* of the Figure of a Croſs; and in like manner does the *Farina* of every *Plant* differ in its *Shape* from the reſt.

The Female Parts of *Generation* in *Plants* are beſt ſeen in large *Fruits*, without the trouble of the *Microſcope*, ſuch as the *Fruit* of the *Pumpkin* or *Melon*, where with the Natural Eye we may diſcover the *Veſſels* diſtinctly which make the *Tunick* or *Covering* of each *Ovary*; we may ſee how the *Seeds* are joyn'd to it, and by what End they receive their Nouriſhment. And again, between the ſeveral *Ovarys* enclos'd in that *Fruit*, we may very eaſily perceive the *Vagina*, or Paſſage through which the *Farina Fecundans* has paſs'd to impregnate the *Seeds*.

It may perhaps be objected againſt this *Hypotheſis*, that there are many *Flowers* which hang downwards, as the *Crown Imperial*, the *Cyclamen*, &c. and that their *Piſtils* cannot receive the *Farina*

Fecundans

Fecundans upon them; but if we obſerve that the *Piſtils* of theſe *Flowers* are always more prominent or ſomewhat longer than the *duſty Apices* which ſoriound them, we may eaſily conceive that the glutinous Matter and Velvet Covering on the Extremities of the *Piſtils*, may be capable enough of receiving and holding ſome of the *Powder* as it falls; and whether the Intromiſſion of the *Farina Fecundans* be requiſite or not, its Lodgment on the Mouth of the *Piſtillum* may, by Virtue of its attractive Quality, perhaps fecundate the *Seeds* contain'd in the *Uterus*; I am ſure in the Production of *Animals* there are yet greater Difficulties to encounter with, and it may be if the *Analogy* between *Plants* and *Animals* was more enquir'd after by the Learned, they might diſcover many new Things which would be ſerviceable to the Preſervation and Benefit of *Animal Bodies*, as this Knowledge will be to the Improvement of the *Vegetable World*. We find, for Example, that *Trees* are generally longer lived than *Animals*, ſome of them living to four or five Hundred Years; nay, we have ſome Accounts by Tradition, of *Trees* that have liv'd above 2000 Years; the Reaſon I think is plain, for that, *Firſt*, *Trees* have no Senſation (for it is my Opinion, that the *Senſes* prey abundantly upon the *Juyces* of the *Body* they belong to). *Secondly*, They always breathe the ſame Air: And, *Thirdly*, They feed always upon the ſame ſimple *Dyet*. And Mankind, who in the firſt Times is ſaid to have lived upwards of 900 Years, is ſaid to have fed upon a *Simple Dyet*, and to have drank of the *clear Stream*; at leaſt he had then but little Variety of Food. But I hope my Reader will pardon this Digreſſion of mine, it may perhaps put him upon greater Diſcoveries.

I ſhall now proceed to what I call the *Demonſtrative Part* of this *Syſtem*. I made my firſt Experiment

ment upon the *Tulip*, which I chose rather than any other *Plant*, because it seldom misses to produce *Seed*. Several Years ago I had the Conveniency of a large Garden, wherein there was a considerable Bed of *Tulips* in one Part, containing about 400 Roots; in another Part of it, very remote from the former, were Twelve *Tulips* in perfect Health, at the first opening of the Twelve, which I was very careful to observe, I cautiously took out of them all their *Apices*, before the *Farina Fecundans* was ripe, or any ways appear'd; these *Tulips* being thus *castrated*. bare no *Seed* that Summer, while on the other hand, every one of the 400 *Plants* which I had let alone produced *Seed*.

But as a farther Demonstration that *Plants* generate after the manner I have endeavoured to account for it, I shall recommend to my Reader the following Experiment. Make Choice of such a *Plant* of the *Hazel* or *Philbud*, as you find to be in a bearing State, and far distant from any other of the same Sort; this *Tree* in *January* puts forth what are commonly call'd *Catkins*, which are long *Thrums*, compos'd of very small *Flowers*, that towards the beginning of *March* are cover'd with a fine *Dust*, or *Male Seed*; 'tis then the *Blossoms* or *Female Parts* appear on the *Buds* of the same *Tree*; they are very small, and hardly to be discern'd without strict Enquiry, only offering to the View a small cluster of *Scarlet Threads*, which are so many *Tubes* leading to the Rudiments of the *Nutts*; this happens at a windy Season of the Year, that the *Male Dust* may be more easily convey'd to the *Utricles* or *Female Blossoms* of the *Plant*. Now so soon as the *Catkins* appear, they must be carefully taken from the *Trees*, and it will propuce no *Fruit* that Year, unless you have a mind to single out any particular *Blossom* of it, which may be impregnated with *Catkins* from

another *Tree*, gather'd fresh every Morning for three or four Day's successively, and dusted lightly over it, without bruising its tender *Fibers*: And in like manner may the *Blossoms* of any other *Tree* or *Flower* be *castrated*, and will have the same Effect.

By this Knowledge we may alter the Property and Taste of any *Fruit* by impregnating the one with the *Farina* of an other of the same Class; as for Example, a *Codlin* with a *Pairmain*, which will occasion the *Codlin* so impregnated to last a longer Time than usual, and be of a sharper Taste; or if the *Winter Fruits* should be fecundated with the *Dust* of the *Summer Kinds*, they will decay before their usual Time; and it is from this accidental coupling of the *Farina* of one with the other, that in an *Orchard* where there is Variety of *Apples*, even the *Fruit* gather'd from the same *Tree* differ in their Flavour and Times of ripening, and moreover the *Seeds* of those *Apples* so generated, being changed by that Means from their Natural Qualities, will produce different Kinds of *Fruit* if they are sown.

'Tis from this accidental Coupling that proceeds the Numberless Varieties of *Fruits* and *Flowers* which are rais'd every Day from *Seed*. The yellow and black *Auricula*'s, which were the first we had in *England*, coupling with one another, produced *Seed* which gave us other Varieties, which again mixing their Qualities in like manner, has afforded us by little and little, the Numberless Variations which we see at this Day in every curious *Flower-Garden*; for I have saved the *Seeds* of near a hundred plain *Auricula*'s, whole *Flowers* were of one Colour, and stood remote from others, and that *Seed* I remember to have produced no Variety; but on the other hand, where I have saved the *Seed* of such plain *Auricula*'s as have stood together, and were differing in their Colours, that *Seed* has furnish'd me

with

with great Varieties, different from the *Mother Plants*. I believe I need not explain how the *Male Duſt* of *Plants* may be convey'd by the Air from one to another, by which this *Generation* and *Production* of new *Plants* is brought about; but I ſhall hint by the bye, to ſuch as plant *Orchards* for *Cyder*, that they ought to plant only one Sort of *Apple* in thoſe Orchards; and that ſuch Plantations be likewiſe remote from other Kinds of *Apples*, whoſe *Farina* would elſe certainly ſpoil the *Cyder-Fruit* by ripening ſome ſooner and others later, which would occaſion almoſt a continual Ferment in the Liquor, and never permit it to ſettle or grow fine.

Moreover, a Curious Perſon may, by this Knowledge, produce ſuch rare Kinds of *Plants*, as have not yet been heard of, by making choice of two *Plants* for his Purpoſe, as are near alike in their Parts, but chiefly in their *Flowers* or *Seed-Veſſels*; for Example, the *Carnation* and *Sweet William* are in ſome reſpects alike, the *Farina* of the one will impregnate the other, and the *Seed* ſo enliven'd will produce a *Plant* differing from either, as may now be ſeen in the Garden of Mr. *Thomas Fairchild* of *Hoxton*, a *Plant* neither *Sweet William*, nor *Carnation*, but reſembling both equally, which was raiſed from the *Seed* of a *Carnation* that had been impregnated by the *Farina* of the *Sweet William*. Theſe Couplings are not unlike that of the *Mare* with the *Aſs*, which produces the *Mule*, and in regard to *Generation*, are alſo the ſame with *Mules*, not being able to multiply their *Species*, no more than other Monſters generated in the ſame manner.

We may learn from hence, that the *Fruit* of any *Tree* may be adulterated as well by the *Farina* of one of the ſame Sort, which perhaps may be ſickly and of a Dwarf Kind, as by the *Duſt* of ſome other Kind near a-kin to it, and worſe than it ſelf. Now as ſuch

Couplings may be very frequent in common *Woods*, ſo would I recommend the Choice of *Seed*, to be made only from ſuch *Plants*, or *Timber-Trees* as excell in Greatneſs or other good Qualities, and are far diſtant from others of meaner Sorts which might degenerate their *Seeds*, and croſs our Expectations when they come to grow up, and this is as neceſſary to be obſerved among *Vegetables*, to maintain their good Qualities in the young *Plants* they are to produce, as it is in the Breeding of *Game-Cocks*, *Spaniels*, or *Running-Horſes*.

There is but one Sort of *Plant* that I know of, which ſeems to be out of this Danger of coupling with other Sorts, and conſequently of either improving or diminiſhing the Qualities of its *Seeds*, and that is the *Miſletoe*; the Parts of its Flowers are indeed as apt to *Generation* as thoſe of other *Plants*, but I have never ſeen any Variety of this *Plant*, or do I know any other nearly enough related to it to *ingender* with it; for whether we find it growing upon the *Oak*, *Willow*, *Lime*, or any other *Tree* what-ever, the *Leaves*, *Flowers*, and *Fruit*, with its manner of *Growth*, are all alike. And ſince I have had Occaſion to mention it in this Place, give me Leave to take Notice of ſome Particularities belonging to it, as that it is neither to be propagated in *Earth* or *Water*, but upon *Trees* and *Plants* only. The Ancients made it a *Superplant*, peculiar to the *Oak*, and tell us, that altho' it ſeemingly produced *Seed*, they did not believe that that *Seed* could poſſibly be made to *vegitate*, becauſe I ſuppoſe they had try'd it in the *Earth* without Succeſs. But as it is ſo frequently found *growing* on other *Trees*, beſides the *Oak* in our Times, I ſhall take Occaſion at once to overturn their Opinion in relation to this *Plant*, by ſhewing how it may be *propagated* from *Seed* upon any *Tree* what-ever. About *Chriſtmaſs* when the

Berries

Berries are ripe, they may eaſily be made to ſtick upon the ſmooth *Bark* of any *Tree* you have a Mind to *propagate* them upon, whether it be the *Oak*, *Aſh*, *Elm*, *Apple*, *Pear*, *Plum*, *Roſe*, *Gooſeberry* or *Currant*, &c. The *Viſcous Juice*, which encompaſſeth each *Seed*, will bind it faſt to the *Part* you place it upon, and with this ſmall Trouble you may expect young *Plants* the following Year, provided the Birds don't devour the *Seeds* you have ſown, therefore a Net would do well to ſecure them. I have ſeen twenty *Plants* of *Miſletoe* growing upon as many different Sorts of *Trees* and *Shrubs* in one Garden, which were *propagated* in the ſame Manner I have mentioned. And I believe it would be very uſeful in correcting the too great Vigour of ſome *Fruit Trees*, and bring them to bear, by taking from them the *ſuper-abundant Juices*, which are always deſtructive to *Proliſicity*, either in *Plants* or *Animals*.

And now from the Account I have given of the *Generation* of *Plants* it appears that double *Flowers* ſeldom bear *Seed*, becauſe the *Duſt* of the *Apices* is ſoo much crowded with the *Petals* or *Flower-Leaves*, hich for that Reaſon cannot eaſily reach the *Style* r *Piſtil* of the *Flower* which is always prominent, n above the *Petals*, in full *Flowers*. It appears kwiſe that the Natural Properties of *Fruits* or *ds* may be changed by accidental coupling with er *Plants*; and that the *Seeds* ſo alter'd, may rob of our Expectations in *Planting*, by having their nciples debauch'd by the *Duſt* of *diſtemper'd* and *nerated Plants*. I could ſtill add many other narks relating to this Diſcovery, and give my der a more ample Deſcription of the *Generative Parts* of *Vegetables*, as I have obſerv'd them the beſt *Microſcopes*; but I conceive I have enough to Explain what I propoſed upon this l, and ſhall therefore now proceed to offer

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ſuch Experiments as I have made relating to *Soils*, and endeavour to ſhow how they may be mended, alter'd, and improv'd chiefly by proper Mixtures with each other.

CHAP. III.

Of SOILS *proper for the Nouriſhment of* PLANTS, *and compoſts for forwarding the Growth of* PLANTS.

IF *Plants* in their ſeveral Degrees draw from the *Earth* ſuch *Aliment* as is proper for their Subſiſtance, and that as the Nouriſhment they receive is more or leſs ſuitable to them, ſo they proſper accordingly; we may then reaſonably infer that there is a Circulation of *Sap* in *Vegetables*, in ſome Reſpect like that of the Blood in *Animals*, as I have already endeavour'd to ſhew in my firſt Chapter of this Tract. For in Animals it is very certain that a *Diet* is required by them, and that *Diet* being concocted, is the Matter from which the Blood is drawn, and that as the Blood is, ſo is the State of the Body, either healthful or diſtempered, then it reaſonably follows that we ought carefully to provide wholeſome and natural Nouriſhment for the Welfare of each reſpective *Plant* we deſign to *propagate*. as we uſually do the proper *Food* or *Diet* of every *Animal* we have a Mind to nouriſh. The Food of *Land Animals* is of three Kinds only, *viz*. *Fleſh*, *Herbs*, and *Seeds* or *Fruit*. So likewiſe the *Foods* of *terrene Plants* is of three Sorts, *Sand*, *Loam* or *Mother-Earth*, and *Clay*, in their ſeveral Degrees; and as the ſeveral Kinds of *Fleſh*, the various Tribes of *Herbs*, and the many different *Fruits* have each their reſpective *Animals* to feed upon

them, ſo *Sand* in its ſeveral Degrees, *Loam* of different Sorts, and *Clays* of all Kinds have certain Proportions of *Salts* in them reſpectively, proper for the Nouriſhment of every *Plant*, *Fruit* or *Seeds*, I eſteem to be the *Medium Nouriſhment* between *Fleſh* and *Herbs*, and we find that every Land *Animal* will feed upon it, altho' their natuaral *Food* is either *Fleſh* or *Graſs*; as for Example, a Horſe, whoſe proper Food is Graſs, will eat Grain, and ſo Dogs and other Creatures who feed upon Fleſh, will eat Fruit. And I am of Opinion that the *Salts* therefore of *Fleſh*, *Fruit* and *Herbs* are the ſame, only differing in the Proportions of their Quantities; that is, one Pound Weight of *Fleſh* may perhaps contain twice as many *Salts* as the like Weight of Grain or Seed, and one Pound of *Grain* twice the *Salts* as may be found in a Pound of *Herbs* or *Graſs*. Now that all theſe *Salts* are proper for *Vegetation*, is, evident by the common Practice of burying *Stram*, or *Litter*, *Brakes*, *Haulm*, and ſuch like, to enrich ſome *Soils*; again if *Fruites* and *Grain* be well conſumed, one Load of it laid upon a Spot of Ground, will enrich it more then ten Load of Horſe-Litter, or Common Dung. ſays Sir *Hugh Platt* from Experience, and we are very ſenſible of the Prodigious Effect of *Carion*, *Leather*, or any Parts of *Animals* apply'd to the Roots of *Vegetables*.

So on the other Hand in Natural Soils, what I call *Loam*, or *Mother Earth*, I ſuppoſe to be the *Medium* between *Sand* and *Clay*, that is an Earth of a certain Temperature; partaking equally of them both. And indeed all *Soils* that I know of, may be reduced under theſe three general Heads, viz. *Sand*, *Loam*, and *Clay*; for all others, altho' they may bear different Names are in ſome Reſpect depending upon one or other of thoſe *Gravels*,

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and all the open *Soils*, 'till we come to the *Loam* I mention, are of the *Sandy* Race; and the binding *Earths*, from *Loam* downwards, 'till we come to the *Stiffneſs* of Chalk it ſelf, may be ranged with the *Clay* Kind. I find all theſe *Soils* are alike tending to *Vegetation*, and have their *Salts* proper for it, but in different Proportions of Quantity; that is a Peck of *Clay* has perhaps twice as much *Salts* in it as the ſame Quantity of *Loam*, and that Quantity of *Loam* twice as many *Salts*, as the ſame Proportion of *Sand*. Now from this Argument of mine, it may ſeem at firſt View that *Clay* is the moſt proper *Soil* to forward the *Growth* of *Plants*, whereas we know that *Sand* is much more apt to produce *Plants* quicker than any other *Soil*; but give me leave to explain this Paradox. *Clay* whoſe Parts are cloſely wrought together, will not eaſily give out thoſe *Salts* contained in it; neither can the tender *Fibers* of every Plant make their Way thro' it, in Search of their Nouriſhment; but if we open its *Parts*, by digging and breaking it into ſmall Particles, and keep thoſe *Parts*, open by a Mixture of ſome ſharp *Sand*, or other Body of the like Nature, we ſhall not fail to ſee the Effects of its Vigour,

On the other Hand, *Sand* is apt to puſh forward the *Plants* growing upon it early in the Spring, and will even cauſe them to *Germinate* near a Month ſooner then the *Plants* growing upon *Clay*; the Reaſon is that the *Salts* in a *Sand* are at full Liberty, to be raiſed and put in Motion upon the leaſt Approach of the Sun's Warmth. But then as they are haſty in their Work, ſo are they ſoon exhal'd and loſt.

The *Clay* has certain *Plants* growing upon it which are natural to it, and conſequently thrive better in it than in any other *Soil*.

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And the *Sand* likewiſe has its natural *Plants*, which delight in it, and will not equally proſper in any other *Earth*.

However both the *Clay Plants*, and thoſe of the *Sand*, will grow in the *loamy Soil* I have mention'd, for that it partakes of the Qualities of *Sand* and *Clay*, as Grain doth of *Fleſh* and *Herbs*, in reſpect to the *Food* of *Animals*.

I might here take Notice that the Word *Loam* is variouſly receiv'd, and underſtood by *Planters*. Some mean by it the moſt common ſuperficial *Earth* met with in *England*, without any Regard to the Proportions it bears of *Sand* or *Clay*. Others would have it more inclining to *Clay* than *Sand*, However I ſhall endeavour to avoid all Diſputes that might ariſe concerning it, by once more repeating, that when I ſhall have Occaſion to mention it, I mean only that Degree of *Earth* which equally partakes of *Sand* and *Clay*.

This *Earth* then, which I call *Loam*, may either be of a black, or yellow Colour; but let it be either the one or the other, Experience ſhews us that *Plants* of all Sorts will grow in it, and for the Reaſons I have before mention'd, it appears to be a more beneficial *Soil* than any other where-ever it happens to be found.

Now, as I take it, ſeeing that *Loam* is ſo happy in its Productions, that even *Plants* naturally bred in different *Soils* will thrive in it, it then ſeems reaſonable, that if by Mixtures of *Natural Earths* one with the other, we make ſuch a Compoſt as may nearly imitate it, we may expect far greater Succeſs from a Mixture of that Sort (eſpecially in *Plantations* of durable *Trees*) than any Compoſition we can deviſe to be made with *Dungs*, or other forcing Ingredients. For it is very well worth our Remark,

that *Animals*, and *Vegetables* alſo of all Sorts, are more laſting, as they are fed by ſimple and natural *Diets*, as I have hinted before. It is true, *Hot-Beds*, or any other Means of the like Nature, would indeed forward the *Growth* of *Trees*, perhaps as much in one Year, as Nature of her ſelf would do in ſix: Or as Dr. *Agricola* of *Ratisbonne* pretends by his artificial Compoſt to raiſe *Forreſt Trees* to exceed the Height of twenty Foot in a few Days Time; but we may be aſſured they can never laſt out half their Days, for we find the ſame in *Animals*, but particularly in *Mankind*, who by Exceſs of unnatural *Foods*, and invigorating *Liquors*, ſhortens his Life; while on the other Hand, ſuch Men as have hare Subſiſtence, and are forced thro' Neceſſity to live upon the natural Food of their own Country, are long-liv'd; I therefore would adviſe, as well from what I have ſaid, as from the Obſervations and Inquiries I have made of the *Growth* of *Timber Trees*, that they may not be forced by any violent Means, if we deſign them to laſt long and improve themſelves, to be valuable; neither to take them from a Nurſery of rich Ground, and expoſe them afterwards in ſuch *Land* where they may want the ſame Plenty of Nouriſhment they have been uſed to; for then they would certainly decline and deceive us. Let the Earth we deſign to plant them in, be freſh and well open'd in its *Parts*; and if it ſhould be ſifted, it will help the ſtriking of young *Roots* at firſt planting, and ſupport them 'till they can gather *Strength*.

I think I need not further explain, that equal Quantities of *Sand* and *Clay* well mix'd together, will afford us the deſirable *Soil* we ſeek after, in Caſe the *Loam* or *Mother Earth* I mention, cannot conveniently be met with. But this has its greateſt uſe, when we make new *Plantations*, for we ought alſo to exa-

mine

mine the Depth of the *Soil* underneath, into which our *Trees* are afterwards to push their *Roots*, and from whence they are to draw their chief Nourishment, and that may be best known from Observation; that is by examining the most vigorous *Trees* of every Kind, and observing the *Qualities* and *Depths* of the *Soils* they feed from, and from such Examples, to make our *Plantations* accordingly; we shall then find that an *Oak* will never make good *Timber*, if it be *planted* or *sown* upon a shallow Rocky *Soil*, and at the same Time that an *Ash* will grow there; but this I shall more fully explain in the next Chapter of *Forrest Trees*.

And now seeing that some delight more in the quick *Growth* of the *Trees* they plant, than the Advantages which would accrue to their Families, from a regular and natural *Growth* of their *Plantations*, I shall mention some *Mixtures* which have been experienced to forward the *Growth* of *Trees*.

Mixture the First. If the *Soil* be stiff inclining to *Clay*, let it be well broke and open'd, of which take about five Load, add to it an equal Quantity of *Heath Turfs* burnt, let these Ingredients be well mixed and sifted, or skreen'd together, after they have lain for a Winter in a *Heap* or *Ridge*. This Compost will forward *Trees* extreamly.

Second Mixture. To four Load of *stiff Soil* broke and open'd as before, add as many Load of *sharp Sand*, to which put two Loads of the *Ashes* of burnt *Furzes*, *Gorse*, *Fern*, *Weeds*, or *Wood*; let this be well mix'd together about *September* or *October*, and be laid up in a *Ridge* 'till the *February* following, to be skreen'd or sifted for Use. Sir *William Bruce*, a Gentleman of *Scotland*, made use of the like *Mixtures* in his Garden, with the Success he desired.

Third Mixture. One Load of *Rotted Wood*, such as may be found under a Wood Pile, or for want of that, the same Quantity of *Rotted Leaves*. To either of these add a Load of *burnt Grass Turf*, two Load of *Sand*, and the like of *stiff Soil*, this Composition must be well mix'd and laid in a *Ridge* from *October* 'till *February*, and be sifted for Use: *N. B.* These artificial *Soils*, should always be compos'd about *October*, and sifted the following Spring just before you use them; for if you should prepare them in the Spring, the Summer's Heat would exhale their *Volatile Spirits*, and besides *Weeds* would be apt to rob them of their Nourishment, unless they were to be made in some shady Place under *Trees*.

Fourth Mixture. Take the Quantity of a Load of *Rape Seeds*, after the *Oyl* is press'd from them, which may be very easily had at the *Rape Mills* at a small Expence; add to them two Load of *Sand*, one of *stiff Soil*, and one of burnt *Heath*, or *Grass Turf*, prepared as the others, and sifted, will greatly forward the *Growth* of any *Plant*.

Fifth Mixture. Take one Load of *Malt Grains* (after Brewing) add to it two Load of Sand, and two of *stiff Soil*, mix'd and prepared as before, it will make an incomparable Compost to hasten the *Growth* of *Plants*.

Sixth Mixture. *Sheeps Dung*, with a like Quantity of *Wood-Ashes*, and twice as much *Loam*, or *Mother Earth*, prepared as before, will greatly forward the *Growth* of *Herbs* and *Trees*.

Seventh Mixture. Take of *Horse Dung* well consumed two Load, add to it one Load of *Turf Ashes*, two Load of *Sand*, and two of *stiff Earth*, prepare this *Mixture* as before, and it will greatly forward *Germination* of *Plants*: But if *Sea-Coal Ashes* are more easily found, put them in the Place

of

of the burnt *Turf*, and then add one Load more of *ſtiff Earth* to the Compoſt.

And now beſides the ſeveral Compoſitions which I have ſet down, I might add thoſe which I have known to have been prepared with the *Soil of Poultry*, that feed upon Corn or Grain. I found thoſe Ingredients very hot and full of Salts, greatly tending to *Vegetation*, and abundantly quicker in their Operation, than the *Soil of Animals*, which only feed upon *Herbs*; but that is no great Wonder, if it be true what Sir *Hugh Platt* ſays, that one Load of Grain will enrich Ground more than ten Load of common *Dung*, and alſo from what I know from Experience, and have mention'd in the Fourth and Fifth *Mixtures* preſcrib'd in this Chapter. Now if ſimple *Grain* by-infuſion only (if I may ſo term it) in the *Mixtures* or *Compoſts* I have directed, has a good Effect, we may eaſily imagine how much more powerful it will be when it has paſs'd through the Bodies of *Animals*. I could ſay much more upon this Head, but as it is my Deſign to be as ſhort as may be convenient, and purpoſing chiefly in this Treatiſe to contribute ſuch Experiments as may tend to the Improvement of *Plantations* of *Forreſt-Trees*, I ſhall not here enlarge upon *Soils*, but leave ſome Particulars for another Work, and ſum up this Chapter, with two or three ſhort Remarks, firſt that a *Preparation* of natural *Soils* anſwerable to the *Loam* or *Mother Earth* I have mention'd, is certainly the beſt for all ſorts of *Forreſt Trees* to be *planted* or *ſown* in, if we deſign them to make good Timber; and if it is rather deſired that ſuch *Trees* ſhould grow quick, and conſequently be ſubject to decay early, or be prejudiced by *Blights*, I have made mention of ſuch forcing *Compoſts* as will ſet them forward in their *Growth*; but in my Opinion might be

be better employ'd in Gardens for the Production of ſhort-liv'd *Plants.*

CHAP. IV.

Of Timber-Trees *and* Underwood, *and of Dreſſing and Cleaning of Woods.*

AS there is nothing which contributes more to the *Honour*, *Beauty*, and *Welfare* of an Eſtate, than timely and ſufficient *Plantations* of *Timber Trees*, ſo I have choſe to make the *propagating* of *Timber* my preſent Subject, and what I have ſaid in the former Chapters may I hope contribute ſomething towards our Succeſs in the Undertaking, which will ſo greatly contribute to the Welfare of every Man of Eſtate, if it be rightly underſtood: For altho' a Gentleman may perhaps be poſſeſs'd of a plentiful Fortune, ſuppoſe of 10000 *l. per Annum*, he ought certainly to conſider that in proceſs of Time he muſt provide Fortunes for Children out of that Eſtate, proportionably to his Honour; and again, his Children muſt likewiſe make farther Proviſions out of their ſeveral Parcels for their Iſſue, and ſo on, 'till an length, in ſix or ſeven Generations, we ſhall find the paternal Eſtate cut to Pieces into ſo many little Shares that there will hardly remain any Idea of the plentiful Stock of their Anceſtors. Now I ſay, it would certainly be a Token of great Wiſdom, for every Gentleman of Fortune, not only to conſult all proper Means how to maintain the Bulk of his Eſtate entire, but continue it ſo in his Line wiſely guarded againſt the Hazards of Fortune, and even the natural Conſequences I mention, by timely and neceſſary *Plantations* upon it, which would be ſo

many

many Monuments of his Wisdom, and improving Treasuries for the good of his Posterity; and besides how beneficial would such *Plantations* be in Case of extraordinary Accidents, the Profuseness of a young Heir; the Discovery of Iron or Lead Mines, where Wood is of such extraordinary Use; or for the raising a Sum of Money upon any Emergency: I may add likewise, besides the private Interest of the Proprietor, it would be of general Use, and for the Nation's Good. How happily is *England* situated for Trade, what Benefits doth she receive from her Shipping, and therefore how profitable and useful is her *Timber*, which will yet become more Valuable than ever, in that so much is continually cut down, and very little care taken to make new Plantations for future Benefit In a Word, the present State of *Timber* in *England* is so very inconsiderable, in Respect to the great Use made of it, and even that which remains growing is generally so much neglected in its Culture, that I hope some Directions for its Improvement may not be unacceptable to the World.

The *Trees* which have been commonly propagated in *England*, for *Timber*, are the *Oak*, *Ash*, *Beech*, *Elm*, *Chesnut* and *Walnut*; these are of the upper Class, and we may add to them the *Ilex* or *Ever-Green Oak*.

Of the lower Rank for *Underwood*, or more indifferent Use, are the *Hazel*, *Alders*, *Willows*, and some others of less Note.

The *Oak* like all other *Plants* has its Varities, which are taken Notice of by the *Botanists*. I have observ'd about five Sorts in *England*; but I shall only recommend two Kinds of them to be planted for *Timber*. The first and best in my Opinion is the *Upright-Oak*, which grows more Erect than any o-

ther;

ther; and the second is the *Large spreading Oak*.

We have many Instances of these Kinds that have attain'd to such prodigious Greatness of Stature, that the *Timber* alone of one Tree has been sold for upward of 50 *l.* The *Oak* doth not only afford us the most serviceable *Timber* for Naval Architecture, but also for other Building. Its *Bark* is useful to *Tanners*: and the *Oak* is therefore cut down about *April* when its *Bark* will peel. The *Acorns* are excellent Food for Hogs. This Tree delights in moist Ground of a good Depth, and will prosper in the coldest *Clay*, and, as Mr. *Evelin* says, in Gravel also. It is noted likewise that some *Oaks* having been sown in Hedge Rows, have in the Space of 30 Years born a *Stem* or *Trunk* of a Foot Diameter. I have my self seen some seedling *Oaks* of 20 Years Growth of near that Substance, which had never been removed from the Place where they were sown, and I would advise that every Plantation of *Oaks* be set from *Acorns* on the very Spot where they are to remain, and that we are likewise careful to chuse our *Acorns* from thriving vigorous Trees, for the Reasons I have before mentioned; the Distance between them ought to be about 33 Foot, and the said Space between the *Oaks* should be intersown or planted for *Underwood*, as I shall direct in the following Chapter.

Of the *Ash* there are two Sorts (falsely distinguished by the Names of *Male* and *Female*) which most deserve our Care in that they are quick Growers, and rise to a prodigious Stature; besides these there are several other Kinds which are not worth our Notice. So that we ought to be careful in the choice of the *Keys* or *Seeds* we design to sow. I have heard of *Ash* Trees of 40 Years Growth from the Seed, that have been sold for 25 Pounds apiece, which have grown on Plains in light *Earth*, not very deep, and Mr.

Evelin

Evelin tells us, that one Perſon planted ſo much of this ſort of *Timber* in his Life time as was valued worth fifty thouſand Pounds to be bought, which he juſtly remarks was very good Encouragement for a ſmall and pleaſant Induſtry. The *Keys* of this *Tree* are ſowed about *October*, or elſe may be laid at that time in *Sand*, *S. S. S.* 'till the following Spring, and then ſown. The *Timber* of the *Aſh* is uſed for Ploughs and Axel-trees, Wheel Rings, Oars, and many other mechanick Works, and if we propagate the *Aſh* for *Underwood* only, it will turn to good Account for Hoops and Hop-Poles. It may be cut about *February*.

The *Beech* delights in Mountains. In *Berkſhire* in the Chalky-Hills this Tree is very proſperous, and attains a conſiderable Stature; its *Timber* is uſed about Keels of Ships, and many Implements of Husbandry; it is the moſt common *Firewood* of *England*, eſpecially about *London*, where Billets are uſually burnt. Among the Coal-Pits near *New-Caſtle upon Tine* this Wood is much uſed to make Cart Ways, where for many Miles the Wheels of the Coal-Waggons run upon it, which ſave the Expence of Horſe Fleſh. This Wood will remain ſound for many Years, in thoſe marſhy Lands, and is much eſteem'd for that uſe. From the *Seed*, which is call'd *Beechmaſt*, the *French* have long ſince drawn a very ſweet *Oil* for eating, and lately the ſame has been practiſed in *England*. This *Seed* is likewiſe good to feed *Deer*, *Hogs* and *Fowl*; it may be ſown about *October*, or put in *Sand* like the *Aſh-Keys*, 'till Spring, the better to preſerve it from *Vermin*. The *Timber* may be cut as the former.

We have many Sorts of *Elm* frequent in *England*, among which the *Vulgar* or *Mountain Elm* is counted the beſt for *Timber*; I ſhall therefore recommend

mend this Sort to the Planter, before all others. It may be propagated from the *Seed*, or *Samera*, which ripens and falls from it towards the latter End of *April*, or Beginning of *May*, it muſt then be ſown in fine ſifted *Earth*, or what I call *Loam* in the foregoing Chapter. This *Seminary* muſt be made in a ſhady Place, and water'd from time to time, as the *Earth* begins to dry; but beſides this Way of raiſing *Elms*, we may either propagate them from *Layers*, or *Suckers*; which laſt muſt be tranſplanted into *Beds* of fine *Earth* about the Beginning of *March*, and kept well water'd. And ſo naturally is the *Elm* incilned to *Vegetation*, that I have heard ſome affirm, by ſowing only the *Chips* of it in a Piece of plow'd Ground, they have rais'd a large Quantity of theſe Trees, which perhaps is not impoſſible; for I am aſſured in other Caſes the *Buds* and *Leaves*, nay the very *fibrous Roots* of *Plants* have been made to ſtrike *Root*, and produce *Branches*, *Leaves*, *Flowers* and *Fruit*, by ſetting them half way in the *Earth*, and Mr. *Fairchild* of *Hoxton* has done the like with *Leaves* of the *Lauruſtinus*; however let us raiſe our *Elms* which way we will, I ſhall adviſe that they be not *planted* out of their firſt *Beds* 'till they have ſtood there two Years; and then remove them to greater Diſtances from each other, and let them ſo remain 'till you plant them out for good, at about 20 Foot Diſtance, in *Beds* of the ſifted *Loam* directed, they grow quick, give a fine Shade, and afford valuable *Timber*; and if the *Witch Elm*, or *Dutch Elm* be grafted upon this Kind, we may expect them to make *Shoots* of above 8 Foot long in one Year, and produce *Leaves* of an extraordinary Bigneſs, but the Wood will then be not ſo valuable. This Tree delights in an *Earth* competently fertile, neither too dry or ſandy, or too cold and ſpungy;

nor does it require a deep *Soil*. Let it be moderately refreshed with Water after *planting*; and to keep the *Earth* about the *Roots* more open, and ready to receive Wet, cover the *Bed* it is *planted* in with rotted *Fern*, or other such like Matter. A Year or two after *planting*, you may refresh the young *Fibres* at the Extremities of the *Roots* with some fine sifted *Earth*, or any one of the four first *Mixtures* mention'd in the foregoing Chapter, which will make the Tree shoot prodigiously, for that they contain *vegetable Salts* in great abundance. The *Timber* of this *Tree* is very serviceable, especially where it may always lye wet it will last a long time: it is mightily used for Pipes, Pumps, Mills, and such Parts of Ships as lye constantly under Water; in a Word it is almost of general Use. The time of Felling it is from *November* to *February*.

We have two Kinds of *Chesnut* in *England*, that which bears *Edible Fruit*, and the other which is call'd the *Horse-Chesnut*: The first of these Trees affords good *Timber*, and the Latter is only desirable for its pleasant Shade and beautiful Flowers; these *Trees* may both be raised by setting the *Nuts* about three Inches deep, in a light sandy *Soil*, towards the latter End of *February* or Beginning of *March*; but as the first only is useful, so I shall chuse to recommend it to the *Forrester*. It delights in high Grounds remote from Water, which would spoil both its *Timber* and *Fruit*, and should indeed be set from the *Nut*, where it is always to remain, for it's apt to suffer greatly by removing, and spread too much in its Branches, when it loses its *Tap-root*, as all other *Tap-rooted* Trees are known to do. Its *Timber* is lasting if it be kept dry, and good for Buildings; and if it be planted for *Underwood*, it will afford excellent Poles and Stakes in nine Years after sowing,

ing, worth at leaſt 10*s. per* Hundred : The *Fruit* is ſometimes uſed at our Tables, but more commonly given to *Deer* and other Cattle to fatten them. We may fell this *Tree* any time between *November* and *February*.

Among the *Botaniſts* there are reckon'd many ſorts of *Walnuts*, two only of which I ſhall recommend to the *Planter*, viz. That with the *ſoft Shell* for the ſake of the *Fruit*, and that with the *black Grain* for the Goodneſs of its *Timber*; they are both rais'd from the *Nuts* like the *Cheſnut*, and ſhould like them be ſown in the Places where they are to remain. They are in great Danger of Death if they loſe their *Tap-root*, but will thrive extreamly if they have Depth of Earth to ſtrike into. The *Walnut* grows well in *Loam*, but will flouriſh alſo in *Chalk* or gravelly *Soil*, either on hilly Ground or in a Vale, which (I think) ſhews it to be a foreign *Plant*, for as I have obſerv'd every *Plant* natural to *England*, has a *Soil* and *Expoſure* peculiar to it ſelf, and will ſcarce be made to grow in any other Sort of *Land* or *Situation*. I have ſeen ſome *Walnut* Trees of forty Years *Growth* from the ſetting of the *Nuts* that were valued at five Pounds apiece, and others ſtanding by them which were Trees planted at the ſame time (as the Owner himſelf inform'd me) that were not worth thirty Shillings a Tree; and the like Obſervation has been made of other *Tap-rooted* Trees, but particularly the *Oak*; ſo great is the Difference of *Growth* in downright Rooted *Plants* when they are ſet from *Acorns* or *Nuts*, and *tranſplanted* from the *Nurſery*. The *Timber* is much uſed for Chairs, Cabinets and Houſhold Furniture; it is durable, and an Enemy to Worms, from its exceeding Bitterneſs. The *Nuts* yield abundance of Oil, and take Place among the beſt *Fruits* for the Table. This *Tree* may

be

be cut down when the *Sap* is fix'd, *i. e.* from *November* to *February*.

The *Ilex* or *Evergreen Oak*, is a *Plant* which produces admirable *Timber*, but is more particularly valuable for its *Knee Timber*, which is much tougher than that of our *Engliſh Oak*; it is in ſuch Requeſt among our Ship-Carpenters that many Ships laden of it has been brought to *England*. The *Tree* is of quick *Growth*, and will attain to a very conſiderable height, even to equal the talleſt of the *Engliſh Oaks*, to which Perfections we may alſo add the Beauty of its *Leaves*, which are green all Winter.

That curious Gentleman *Robert Balle*, Eſq; *F. R. S.* has among other Improvements for the Good of his County propagated a large Parcel of theſe *Trees* in *England*, ſome of which have in about 20 Years Space grown to a conſiderable Greatneſs of Stature. And it is to be wiſh'd that others would follow his Example in the Culture of this beautiful and profitable *Tree*. This Gentleman has rais'd ſome thouſands of them from *Acorns*, and tranſplanted them with Succeſs and great Judgment; and to follow his Method, we muſt ſet the *Acorns* in *Loam* well ſifted, in Garden Pots in *February*, and turn them out with the Earth about their *Roots* when they are two Years *Growth*, to tranſplant them afterwards at proper Diſtances, where they are to remain. Theſe, like our *Engliſh Oaks* are *Tap-rooted*, and therefore delight in deep *Soil*, they proſper in moiſt Land, rather on a Plain, than on hilly Ground. If we conſult the *Anatomy* of *Plants*, we ought to be very careful not to injure their *Tap-roots*, which are always anſwerable to the *leading Shoot* on the *Top* of the *Tree*; it is therefore reaſonable to believe that a *Plant* by loſing that *downright Root*, is in Danger of loſing alſo the *Top Shoot*, which is fed from it. And altho' a

Tree

Tree may ſtrike freſh *Roots* after the *Amputation* of this *leading Root*, yet we may find by Experience that the *Sap* will then puſh forth *Branches* in the Sides of the *Stem*, and diſcontinue its upright *Growth*. We may fell this *Tree* as we do the other Oak for the ſake of its *Bark*, the *Acorns* are good Food for *Deer*, and *Fowl*, which greatly delight in the Shelter of theſe *Trees*.

Having mention'd the moſt valuable *Trees* for *Timber*, I am in the next Place to take Notice of ſuch others as will afford us the moſt valuable Crops of *Underwood*. I have already obſerv'd that the *Aſh* and *Cheſnut* may be order'd in this Manner, and bring conſiderable Returns to the Proprietor. The next which I ſhall propoſe for this Uſe is the *Hazel*, which if it be rightly managed will turn to good Account in *Coppices*. This *Plant* may be rais'd from the *Nuts* ſown a little after they are ripe, in cold, dry, ſandy Ground; but if the *Land* happens to be more inclin'd to *Clay*, plow ir in *Autumn*, and let it mellow with the Froſts 'till *February* before you ſow them. The learned adviſe that after the *ſeedling Plants* are come up, they ſhould be weeded or hough'd ſo as to leave the *Plants* at three Foot Diſtance from each other, and after three Years *Growth* to cut them off within half a Foot of the Ground, by which Means they will be made to ſhoot forth many *Twiggs* from each *Stem*, which in nine Years time (*i. e.*) twelve from putting in the *Seed*, will be fit to cut for Hop-Poles, Hoops, Fagots, and other ſuch uſes; but if you rather chuſe to uſe them for Hurdles, then they may be cut at five Years *Growth*. After the firſt Curting, you may cut again in ſeven or eight Years, if they like the Ground, for Poles and Hoops as before, and ſo continue to do from time to time, as you ſee Occaſion. But theſe *Trees*

may

may be likewiſe propogated by *Suckers*, which are frequently found growing about the Roots of Old Trees, but are not very certain in their Growth, after tranſplanting, unleſs they are carefully water'd till they have ſtruck good Roots. In a Plantation of this Kind, which may be made at any time between *October* and the Beginning of *March*, when the Weather is open, theſe *Suckers* muſt be ſet at three Foot Diſtance, and cut down within half a Foot of the Ground about the Beginning of *April* following; or they may alſo be propagated by laying down their *Branches* or *Twiggs* about three Inches in the Earth, which will furniſh us with abundance of young *Plants* in a Year's time. This Work muſt be done about *October*.

The next I ſhall treat of is the *Willow*, an *Amphibuous Plant*. There are many Sorts of it diſtinguiſh'd by the *Botaniſts*, which ſhould I mention here by their ſeveral Names, I might perhaps perplex my Reader, and ſhall therefore only mention them as two Kinds, firſt the *Oziers*, which afford Twiggs for the Basket-makers, and binding Rods, and ſecondly the Tree Kind of *Withy*

Firſt then the *Oziers*, which afford us *Twiggs* for *Wicker-works*, are raiſed by ſetting *Slips* of two or three Years *Growth* about a Foot deep in marſhy or wet *Ground*, at two Foot diſtance from each other; this *Work* is beſt done about the middle of *February*, if the Weather be open; the ſecond Year after *Planting* they may have their *Tops* cut off, leaving their *Stems* about a Foot above Ground, ſo will they put forth *Twiggs* which muſt be again cut down early the *Spring* following, which *Work* being continued every *Year*, the Owner will find conſiderable Advantage from ſuch *Plantations*. An Acre of Ground thus managed will turn to better

Account

Account than the like parcel of *Land* ſown with *Wheat* or any Grain whatever, and it may be for this Reaſon that ſome would pretend to raiſe vaſt Sums of Money by planting ſeveral thouſand *Acres* in this way, as I have been informed ſeveral Gentlemen propoſe to do. It is certain at preſent *Oziers* turn to good *Account*, but I am of Opinion that if we had only as many more planted as we have now growing in *England*, the Markets would be over-ſtock'd with them, and their Price would fall. And beſides, every *Ground*, as I have ſaid before, will not produce them. In this Treatiſe may be found the ſeveral ſorts of *Trees* for Uſe, the different *Lands* they require for their Welfare, and the vaſt Returns they would bring in, if large *Plantations* were made of the ſeveral kinds, by a Diſcreet Planter, who knew how to allot to every *Soil* the *Tree* proper for it. But I ſhall proceed now to give ſome Directions for the propagating of the large *Withy* or *Tree* kind; which will alſo in a few Years time afford profitable; though not very durable *Wood*. Its Uſe is for Perches, Rake-tales, and ſuch like. *Branches* of three or four Years *Growth*, about twelve Foot in length; being ſet near two Foot deep in the Ground in *February*, about fifteen Foot aſunder, will ſoon make handſome *Trees*, which will bear *Lopping* every fifth Year; theſe love wet Ground, and will not be made to proſper in any other. I might add, that this and ſeveral other ſorts of *Willow* might be rais'd from *Seeds* which are born on the *Female Tuli*, if we *ſow* them in wet boggy Ground, as is practiſed in *France* and other Countries.

The *Alder*, more than all other *Trees* beſide, delights in *Boggy Places*, and may be cultivated in the coldeſt wet Grounds. This *Amphibuous Plant* is beſt raiſed from *Truncheons* or *Branches* about three

Foot

Foot in length, ſetting them about *February* a Foot deep in the Ground; they thrive exceedingly on the Banks of Rivers, and will make ſuch *Shoots* in three or four Years time, as may be then cut and ſold to good Advantage for *Poles* and other Uſes; it is a laſting *Wood* if it lie continually under Water; and if we believe *Joſ. Baubimus*, will in courſe of time turn to *Stone*, but if it be expoſed ſo as to be ſometimes wet and ſometimes dry, it is of no Duration. This *Plant* is alſo raiſed from *Seeds* in *Flanders*, where they make great Profit of it.

Thus have I given a ſhort View of the ſeveral ſorts of *Trees* which I would recommend to be planted for *Timber* and *Underwood*; I have endeavour'd to aſcertain the ſeveral *Soils* and *Situations* proper to each of them, which I hope may be of ſome uſe, for that in the Quantity of an Acre of Ground we find *Earths* of very different *Qualities*, to any of which one or other of the *Trees* I have named may be allotted. And now as I ſuppoſe that every Gentleman who is about to make a *Plantation*, will certainly make it upon his own *Land*, or at leaſt on ſuch a Parcel of Ground as will by right be continued after his Demiſe in his Family, it is reaſonable enough to believe, that ſuch Perſons may have upon their Eſtates ſome *Timber* already growing, ſome *Trees* proſpering, others decaying: Now I ſay it would ſurely be good Husbandry to fell ſuch *Trees* as begin to decline, either from too great Age, or too near Neighbourhood with others.

To the firſt, I can pretend to give no other Direction than to have them cut down at the proper *Seaſon*; but to the ſecond, (*i. e.*) where they grow too cloſe together, leave the moſt thriving *Trees* to grow and improve themſelves, and cut up the others *Root* and *Branch*, leaving convenient Diſtances be-

tween the *Trees* which remain ſtanding, which ought to be only ſuch as have their *Tops* or *leading Shoots* proſperous and in good Order. Our Countryman *Lawſon*, who had for above 40 Years ſtudy'd the Improvement and Management of *Woods* and *Timber Trees*, has given us a very good Leſſon concerning the *dreſſing* and *cleaning* of *Woods*, which being ſhort, and much to the Purpoſe, I ſhall inſert in his own Words.

" How many *Forreſts* and *Woods*, wherein you
" ſhall have for one *thriving Tree*, four (nay ſome-
" times twenty four) *evill thriving*, rotten and dying
" Trees, even while they live; and inſtead of *Trees*,
" thouſands of *Buſhes* and *Shrubs*! What *Rotten-*
" *neſs*, what *Hollowneſs*, what *dead Arms*, *wither'd*
" *Tops*, *curtail'd Trunks*, what Loads of *Moſs*,
" *drooping Boughs*, and *dying Branches* ſhall you
" ſee every where, and thoſe that are in this ſort, are
" in a manner all unprofitable *Boughs*, *canker'd*
" *Arms*, crooked, little and ſhort *Boals*. What an
" infinite Number of *Buſhes*, *Shrubs*, and Skrags
" of *Haſels*, *Thorns*, and other unprofitable *Wood*,
" which might be brought by dreſſing to become
" great and goodly Trees! Conſider now the Cauſe.
" The *Leſſer Wood* hath been ſpoiled with care-
" leſs, unskilful, and untimely *Stowing*; and much
" alſo of the *Great Wood*. The *greater Trees* at
" their firſt riſing have fill'd and overladen them-
" ſelves with a Number of *waſteful Boughs* and
" *Suckers*, which have not only drawn the *Sap* from
" the *Boal*, but alſo have made it knotty, and them-
" ſelves and the *Boal* moſſy for want of *Dreſſing*;
" whereas, if in the prime of *Growth* they had been
" taken away cloſe all but one *Top*, and clean by the
" *Bulk*, the Strength of all the *Sap* ſhould have
" gone to the *Bulk*, and ſo he would have recover'd

and

" and cover'd his *Knots*, and have put forth a fair,
" long, and ſtreight *Body* for *Timber* profitable, huge
" great of *Bulk*, and of infinite Laſt.

" If all *Timber Trees* were ſuch (will ſome ſay)
" how ſhould we have crooked Wood for *Wheels*,
" *Coorbs*, *&c.*

" *Anſwer*, Dreſs all you can, and there will be
" enough *crooked* for thoſe Uſes.

" More than this, in moſt Places they grow ſo
" thick that neither themſelves nor *Earth*, nor any
" thing under or near them can thrive, nor *Sun* nor
" *Rain* nor *Air* can come at them.

" I ſee a Number of *Hags*, where out of one
" *Root* you ſhall ſee three or four (nay more, ſuch
" is Men's unskilful greedineſs, who deſiring many,
" have none good) pretty *Oaks* or *Aſhes* ſtreight and
" tall; becauſe the *Root* at the firſt *Shoot* gives *Sap*
" amain: But if *One* only of them might be ſuffer'd
" to grow, and that well and cleanly prun'd all to
" his very *Top*, what a *Tree* ſhould we have in time,
" and we ſee by thoſe *Roots* continually and plen-
" tifully ſpringing, notwithſtanding ſo deadly woun-
" ded, what a Commodity ſhould ariſe to the *Ow-*
" *ner* and the *Commonwealth*, if Wood were che-
" riſh'd and orderly dreſs'd. The waſte *Boughs*
" cloſely and skilfully taken away, would give us
" ſtore of *Fences* and *Fuel*, and the *Bulk* of the
" *Tree* in time would grow of huge length and
" bigneſs.

And now from what has been ſaid relating to the Cleanſing, Dreſſing, and Pruning of *Woods*, two Things naturally offer to the Benefit of the Proprietors: *Firſt*, That the Profit which will accrue from the fall of diſtemper'd and decaying *Timber* and *Underwood*, will afford a Sum of Money ſufficient to make large *Plantations*: And *Secondly*, the *Trees*

remain ſtanding after this Weeding is perform'd, will grow and proſper exceedingly, by being then at liberty to receive a greater quantity of *Nouriſhment* from the *Earth*, and by enjoying ſuch a Proportion of *Air* as their Age and Strength will require.

CHAP. V.

The Method of planting an Acre of Ground *with* Timber-Trees *and* Under-wood; *with the* Profits *which will ariſe from that* Plantation *in Nine Years, Seventeen Years, and Twenty Five Years after* Planting.

IF we conſider the many Advantages this Nation in general has receiv'd from the *Timber* of its own *Growth*, how by its powerful Fleets (the Offſpring of its *Oaks*) *England* has gain'd the Dominion of the Seas, and now enjoys the Benfits of an Univerſal Commerce; without mentioning the Advantages it affords to every particular Owner of it; It is wonderful to me, that the propagating of *Timber*, a Commodity ſo Valuable and Ornamental, ſhould be ſo little encouraged now-a-days among us, when our natural *Store* is ſo near being conſumed, that to all appearance in a few Years time we may be forced to ſeek it in Foreign Countries.

Now, if I may be allow'd to judge in this caſe, I conceive that the preſent decay of our *Timber* may depend upon one or other of the following Reaſons.

Firſt, That the making *new Plantations* will be an *immediate Expence* to us: Or,

Secondly, That we cannot hope to reap any *Profit* to our ſelves from ſuch *Plantations* as might be made in our *Times*; or elſe,

Thirdly,

Thirdly, That many Gentlemen who are already Maſters of Woods, receive little *Profit* from them for want of due Care and Management.

The firſt and laſt of theſe Objections are anſwer'd, I think, in the foregoing Chapter, where the Advantages of Cleaning and Dreſſing of *Woods* are ſet down; in that not only *Money* is provided thereby to anſwer the Expence of *New Plantations*, but alſo the ſtanding *Trees* will be put into a thriving Condition.

It remains now for me to anſwer the other Objection, *viz.* That we cannot propoſe to reap any Profit to our ſelves from the Plantations which might be made by us. But I hope the Method which I ſhall herein propoſe, will give full Satisfaction to that point.

For which end I would recommend that every Plantation which ſhall be made either in this preſent Age, or hereafter, may conſiſt partly of *Forreſt* or *Timber-Trees*, and partly of *Coppice* or *Underwood*.

Now the *Underwood* which I propoſe to be planted and intermix'd among the *Timber-Trees* or *Standards*, may be cut in eight or nine Years after Planting, and ſo from time to time every eighth Year will produce a very conſiderable Return, as will appear hereafter in a ſtated Account.

Secondly, The *Plants* for *Underwood*, which will encompaſs on every Side the young *Timber-Trees*, will not only ſhelter them from Blaſts of Wind which might be hurtful to them, but will alſo (by keeping off the circumambient Air) draw them into ſtrait and tall Trees, 'till they can ſhift for themſelves and are ſtrong enough to bear the Severity of the Weather.

But

But to proceed, let us make choice of such Ground to plant upon, as may not be thought proper for Corn, or at least such as will yield only a poor Crop of Grain. I suppose such Land will be worth about five Shillings *per* Acre by the Year, and by all Means let it be, if possible, near some Navigable River, for the greater Ease and Cheapness of Carriage. Now as I have before hinted that as the Land is, so must we allot the proper Plant for it, I only wish it may be deep enough to nourish the *Oak* and *Ilex*, which are *Tap-rooted Plants*, and therefore delight in deep Soil.

Supposing then we are fortunate enough to meet with an Acre of Ground proper for *Oaks*, we must first encompass it with a good Fence, and then either Digg or Plough the Land at a proper Season, to lye Fallow for some time, 'till the *Turf* be mellow'd and fit for our purpose.

An *Acre* of Ground contains 160 Square Perch or Rods, each Rod being 16 Foot and a half. This Quantity of Land must be fenced about with a Ditch six Foot wide, three Rows of Quicksets planted upon the Sides of its Banks at a Foot Distance from each other, and a dry Hedge on the Top.

A Labouring Man working for *one Shilling per diem*, may prepare nine Foot of the Ditch in length in one Day, and cut Stakes and Bushes and make about five Rod of the dry Hedge in a Day, so that he may prepare the Hedge, make the Ditch, plant three Rows of Quicksets, and pay the Expence of them after the Rate of Two Shillings *per* Hundred, for about Three Shillings the Perch; so will the whole Charge of making a Fence about an Acre of Land be Seven Pounds Sixteen Shillings; but we may Fence in two Acres of Land after the same Rate, being 32 Perch long, and 10 Perch wide, for Nine

Pounds

Pounds Six Shillings, for the ſame Reaſon that if one Hundred Hurdles will hold a thouſand Sheep, two Hurdles added to them will fold two thouſand Sheep, that is if the Sheep Pen has 49 Hurdles on each Side, and one at each End, it juſt contains half the Quantity of Ground that it would do, if it had the Breadth of two Hurdles at the Ends. *N. B.* A Pole or Perch planted with three Rows of Quick-ſets will take up about 48 Plants, ſo will there be required to plant about an *Acre* 2496 Plants.

Thus having provided a good Fence to defend our young Plantation from Dangers of Cattle and other Inconveniencies, the next thing to be done is to prepare the encloſed Land for Planting, which may be perform'd ſeveral Ways.

Suppoſing the Land to be encumber'd in the worſt Manner with *Buſhes*, *Whinns*, or *Furze*, &c. ſo that a Plow cannot be uſed upon it, then may it be dug and clean'd for about Sixpence the ſquare Pearch; the whole *Acre*, if it be dug at that rate, will come to four Pounds. But if the Ground ſhould happen to be in that State that a Plough can work in it, an Acre may be plow'd for about twelve Shillings.

The Land being thus prepared, one Acre will contain forty Plants of Oak at 33 Foot Diſtance, and as I have hinted before that all Tap-rooted Trees are endanger'd by removing, and that when they are tranſplanted they ſeldom come to the Perfection of thoſe which are raiſed from Seed, and remain always in the ſame Place; I ſhall therefore recommend that forty Beds of good Natural Soil be prepar'd on the Acre of Land at the aforeſaid Diſtance of 33 Foot from each other, and that in each Bed five or ſix Acorns be planted about four Inches deep in *February*, which Seaſon I chuſe rather than *Autumn*, becauſe the over wet of ſome Winters might rot the

Seeds,

Seeds, or *Mice*, *Squirrels*, and ſuch like Animals might deſtroy them.

Theſs forty Beds may well be prepared by one Man in three Days, at one Shilling *per Diem*, two hundred Acorns may be worth about ſix Pence, and the planting of them be worth about ſix Pence more, which makes in all four Shillings.

The Acre of Land being thus ſown with Oaks, we may interſow the remaining Part of the Ground with *Aſh-Keys* which have been kept the Winter in dry Sand, theſe will turn to very good Account for *Underwood*, and the Land is already dug or plow'd for our purpoſe.

One Buſhel of *Aſh-Keys* may be worth Two Shillings, the ſowing them One Shilling, and the Harrowing the Ground after Sowing will be worth five Shillings more, in all Eight Shillings. The *Acorns* and *Aſh Keys* will come up the firſt Year, and muſt be hough'd and cleans'd from Weeds. One Man may do this Work in three Days, leaving the Diſtance of three Foot between the Aſhen Plants, the Expence of this weeding will be Three Shillings, for I rate a Man's Work at One Shilling *per Diem*, becauſe I ſuppoſe ſuch Plantations will only be made in thoſe Places where Land is cheap, and conſequently every thing elſe is valuable in Proportion.

The ſecond Year we may draw ſome of the young *Oaks*, leaving a ſingle Plant in each Bed; now it is likely that all the *Acorns* which were put into the Ground may not come up, therefore I would adviſe as the ſureſt way to have our Expectations anſwer'd from the *Seeds* we ſow, to try the Goodneſs of them before they are Sown, which may be done by putting them in Water, and planting only thoſe which ſink quickly to the Bottom.

An

An Acre of Land thus Fenced, Dugg, Cleanſed and Planted, comes to Twelve Pounds and Eleven Shillings, and Two Acres Dreſſed and Planted in like manner will coſt Eighteen Pounds Sixteen Shillings.

But if the Land be clean enough to admit the Plow, then the Charge of Fencing, Planting, *&c.* of one Acre, will be Nine Pounds Three Shillings, and the Expence of Two Acres Dreſs'd in the ſame Manner, Twelve Pounds.

In Nine Years after this Plantation has been made, the Aſh Plants will be fit to be cut for Poles or Hoops, worth Ten Shillings *per* Hundred: If the Plants ſtand at a Yard diſtance from each other, the Acre of Land will then contain about 4800 Plants, which may be ſold for Twenty Four Pounds. The Quick-ſet Fence muſt likewiſe be cut down, and will yield about ten Load of Buſhes, we will ſuppoſe them only worth Five Shillings *per* Load: altho near *London* they ſell for four times as much.

The whole Charge of Fencing, Digging, and Planting an Acre of Land with *Oaks* for *Timber* and *Aſh* for *Underwood*, with the Profit of the firſt Nine Years *Growth* may be ſeen in the following Account.

Account of the Nine Years after Planting, or First Cutting.

	l.	s.	d.		l.	s.	d.
Expence of Fencing, Digging and Sowing an *Acre* of Land for *Timber* and *Underwood*.	12	11	0	Received for 4800 *Ashen-Poles*, at ten *Shillings per hundred*.	24	00	0
Interest of the aforesaid Sum for 9 Years, at 5 *per Cent.*	05	12	6	Received more for 10 Load of Bushes, at five *Shillings per hundred*.	02	10	0
Rent of the Land for nine Years, at five Shillings *per Acre, per Ann.*	02	05	0	9 Years Gain.	26	10	00
				9 Years Expence.	20	13	06
For Cutting 4800 *Ashen-Poles*, one Man 5 Days, at *one Shilling per Diem.*	00	05	0	Neat Profit of the *Plantation* in 9 Years.	05	16	06
9 Years Expence.	20	13	6				

After this Cutting we may cut again in eight Years time, and expect 4 or 5 Poles on each *Ashen Plant*.

Account of the 17 Years after Planting, or Second Cutting.

	l.	*s.*	*d.*		*l.*	*s.*	*d.*
Rent of the Land for eight Years at *5 Shillings per Annum.*	02	0	0	Received for 19200 *Ashen Poles*, at 10 *Shillings per hundred.*	096	0	0
Expence of Cutting 19200 *Ashen Poles* (reckoning four to each Plant) one Man 20 Days at *one Shilling per diem.*	01	0	0	Receiv'd more for 10 Load of Bushes at *five Shillings per* Load.	02	10	0
				Gain'd clear of Expences by the first cutting.	05	16	6
				The Interest which might be gain'd on *5l. 16s. 6d.* in eight Years at *5 per Cent.* is about.	02	06	0
17 Years Expence.	3	0	0	17 Years Gain.	106	12	06
				17 Years Expence.	3	00	00
				Neat Profit of the *Plantation* in 17 Years after planting.	103	12	6

Account of the 25 Years after Planting, or Third Cutting.

	l.	s.	d.
Rent for 8 Years, at 5 *Shillings* the *Acre per Annum.*	02	0	0
Expence of Cutting 19200 *Afhen Poles*, 1 Man 20 Days at *one Shilling per diem.*	01	0	0
25 Years Expence	3	0	0

	l.	s.	d.
Receiv'd for 19200 *Afhen Poles* at 10 *Shillings per hundred.*	96	00	0
Receiv'd for ten Load of Bufhes at *five Shillings per* Load.	002	10	0
Gain'd clear of Expences by the fecond Cutting.	193	12	6
The Intereft which might be gain'd on the aforefaid Sum in eight Years at 5 *per Cent.*	041	08	0
	243	10	6

25 Years Gain. 243 10 6

25 Years Expence. 003 00 0

Neat Profit of the *Plantation* in 25 Years. 240 10 6

To which we may add the Value of the 40 *Oaks* then growing in the faid *Plantation*, worth 10 *Shillings per Tree.* 20 00 0

In all. 260 10 06

By

By the foregoing Account we find that an *Acre* of Land, planted as I direct, may produce the Sum of 260*l.* 10*s.* 6*d.* in the ſpace of *twenty five Years*, clear of all Expences of Planting, and Value of the Land, and the *Oaks* if they are ſtill continued growing, will yet produce a more conſiderable return to the *Owner*, or his *Family* after him.

By the Example of this *Plantation*, others may be made with different kinds of *Trees*; and if the Planter has a due regard to the *Soils* proper to what he deſigns to plant, he may expect a return for his Labour and Induſtry anſwerable to what I have mentioned in this Account, and if his Ground happens to be already *fenced* for his Purpoſe, and is capable of admitting a Plough upon it, he may yet reap a much more conſiderable Profit from his *Plantation*.

I ſhall now conclude this Treatiſe with acquainting my Reader with what he is to expect in the Second Part; I purpoſe in that to treat of every thing (ſo far as my Experience will permit) which may tend to the Improvement of the *Parterre* or *Flower Garden*; wherein I ſhall firſt give the Explanation of a new Invention, for the more ready deſigning and laying out of *Garden Plats*, by which *Inſtrument* it will be poſſible to produce more Variety of *Figures* for *Gardens* in an Hours time, than we can find in all the printed Books now extant: I ſhall then give my Reader the beſt Methods of raiſing and propagating all ſorts of Flowers: And laſtly, endeavour to preſcribe ſuch Rules for the adorning of *Gardens*, as may make them delightful in every Month of the Year. And now that this Work may be the more com-

compleat, I desire all curious Gentlemen will communicate to me what new Experiments they have made in Planting and Gardening, directed to the Publisher of this first Part, which Favours I shall gratefully acknowledge, and insert in the succeeding Sheets.

CHAP. VI.

Description and Use of a NEW INVENTION *for the more speedy Designing of* Garden-Platts; *whereby we may produce more Variety of Figures in an Hour's time, than are to be found in all the Books of* Gardening *now extant.*

SINCE the Instrument I now design to treat of has afforded some Pleasure to many of my Acquaintance, I have been easily perswaded to make it Publick. It is of that *Nature*, that the best Designers or Draughts-Men may improve and help their Fancies by it, and may with more certainty hit the Humour of those Gentlemen they are to Work for, without being at the trouble of making many Varieties of *Figures* or *Garden-Platts*, which will lose time, and cause an unnecessary Expence, which frequently discourages Gentlemen from making up their Gardens. In short, the Charge of the *Instrument* is so small, and its Use so Delightful and Profitable, that I doubt not its favourable Reception in the World.

But to proceed: We must chuse two Pieces of *Looking-glass* of equal bigness, of the Figure

of

of a long Square, 5 Inches in length, and 4 in breadth; they muſt be cover'd on the Back with Paper or Silk, to prevent rubbing off the Silver, which would elſe be too apt to crack off by frequent Uſe. This Covering for the Back of the *Glaſſes* muſt be ſo put on, that nothing of it may appear about the Edges on the bright Side.

The *Glaſſes* being thus prepared, they muſt be laid Face to Face, and hinged together, ſo that they may be made to open and ſhut at pleaſure, like the Leaves of a Book; as for *Example*, the firſt *Figure* ſhows us the Backs of the two *Glaſſes*, *A* and *B*, join'd together by Hinges *C C* and *D D*, ſo that they may be open'd or ſhut to any part of a Circle; and now the *Glaſſes* being thus fitted for our purpoſe, I ſhall proceed to explain the Uſe of them.

Draw a large Circle upon Paper, divide it into three, four, five, ſix, ſeven or eight equal Parts, which being done, we may draw in every one of the Diviſions, a Figure at our Pleaſure, either for *Garden-Platts* or *Fortifications*; as for *Example*, in the ſecond *Figure* we ſee a Circle divided into ſix Parts, and upon the Diviſion mark'd *A* is drawn part of a Deſign for a *Garden*. Now to ſee that Deſign entire, which is yet confuſed, we muſt place our *Glaſſes* upon the Paper, and open them to the ſixth part of the Circle, (*i. e.*) one of them muſt ſtand upon the Line *b* to the Center, and the other muſt be open'd exactly to the point *c*, ſo ſhall we diſcover an entire *Garden-Platt* in a Circular Form, (if we look into the *Glaſſes*) divided into ſix Parts, with as many Walks leading to the Center, where we ſhall find a Baſon of an *Hexagonal Figure*.

We

We may more plainly see how the *Glasses* ought to be placed upon the Design, by viewing the third *Figure*. The Line *A* where the *Glasses* join, stands immediately over the Center of the Circle, the Glass *B* stands upon the Line drawn from the Center to the point *C*, and the Glass *D* stands upon the Line leading from the Center to the point *E*; the *Glasses* being thus placed, cannot fail to produce the compleat *Figure* we look for; and so whatever equal part of a Circle you mark out, let the Line *A* stand always upon the Center, and open your *Glasses* to the Division you have made with your Compasses. If, instead of a Circle you would have the Figure of a *Hexagon*, draw a straight Line with a Pen from the point *c* to the point *d* in the second *Figure*, and by placing the *Glasses* as before, you will have the *Figure* desired.

So likewise a *Pentagon* may be perfectly represented, by finding the fifth Part of a Circle, and placing the *Glasses* upon the *Outlines* of it; and the fourth Part of a Circle will likewise produce a Square by means of the *Glasses*, or by the same Rule will give us any *Figure* of equal Sides. I easily suppose that a curious Person by a little Practice with these *Glasses* may make many Improvements with them, which perhaps I may not have yet discover'd, or have for Brevity sake omitted to describe.

It next follows that I explain how by these *Glasses* we may from the Figure of a *Circle* drawn upon Paper make an *Oval*; and also by the same Rule represent a long *Square* from a perfect *Square*. To do this, open the *Glasses* and fix them to an exact *Square*, place them over a Circle and move them to and fro till you see the Representation of the

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Fig. I

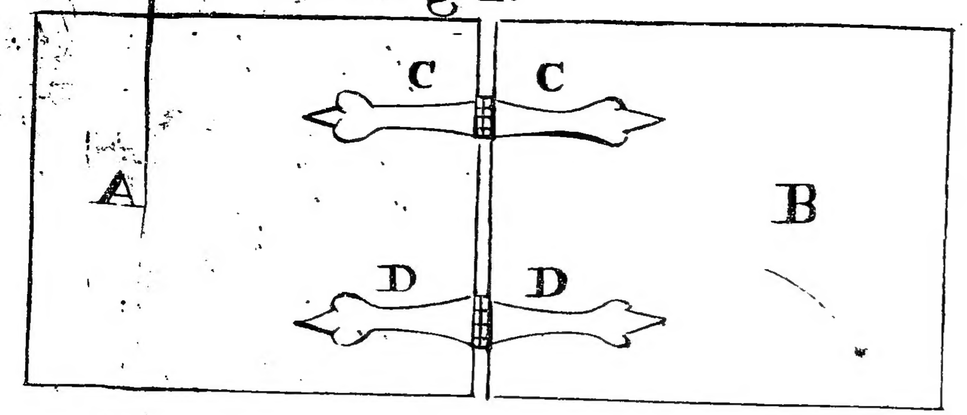


Fig. II

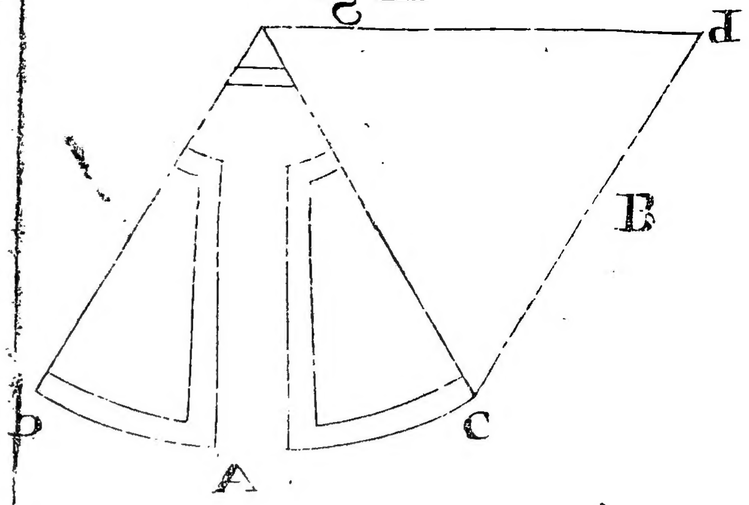
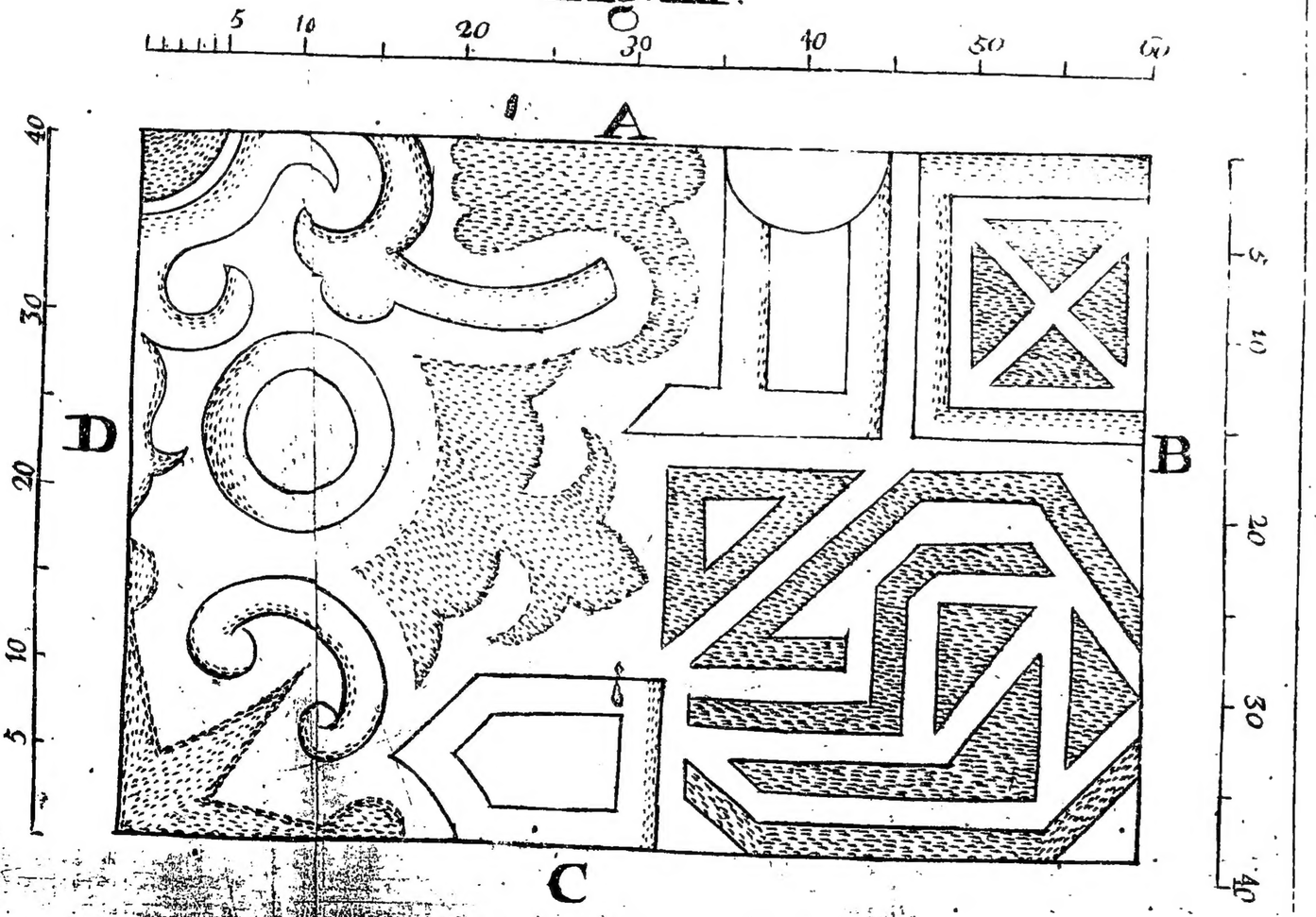
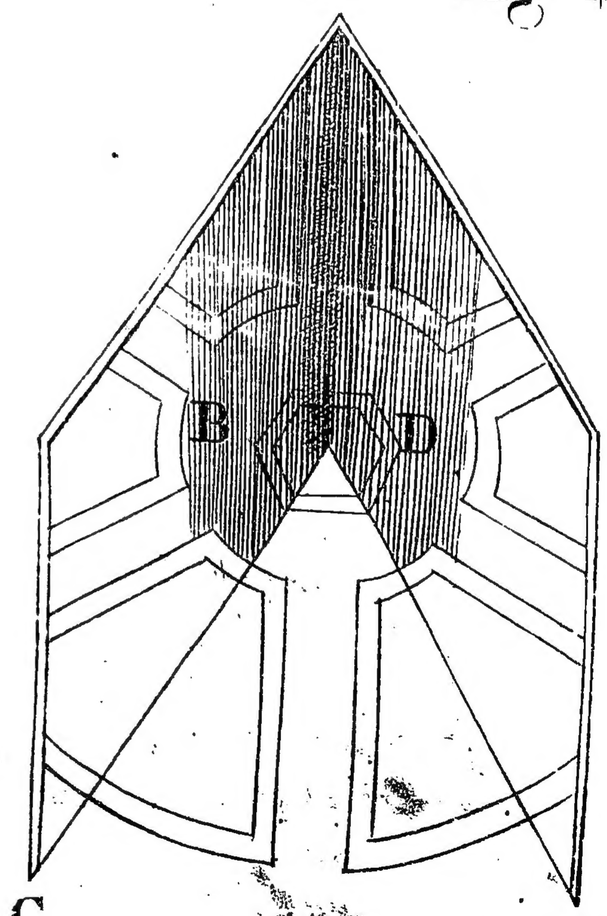


Fig. III.



A Fig. III.



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